

Early Childhood: Content Knowledge (0022)

Test at a Glance

Test Name	Early Childhood: Content Knowledge		
Test Code	0022		
Time	2 hours		
Number of Questions	120		
Format	Multiple-choice questions; use of a calculator is not permitted.		
	Content Categories	Approximate Number of Questions	Approximate Percentage of Examination
	I. Language and Literacy II. Mathematics III. Social Studies IV. Science V. Health and Physical Education VI. Creative and Performing Arts	36 30 17 17 10 10	31% 25% 13% 13% 9% 9%

About This Test

The Praxis Early Childhood: Content Knowledge test is designed to assess the content knowledge prospective early childhood teachers must have in order to support children’s learning in the content areas. The test consists of 120 multiple-choice questions, each of which pertains to one of six content areas: language and literacy, mathematics, social studies, science, health and physical education, and creative and performing arts. Questions will assess whether the test taker knows the major concepts, skills, and tools of inquiry in the content areas; can apply knowledge of the content areas in the context of children’s learning; knows the structure of the content areas; and knows how the content areas are interrelated.

The test does not emphasize knowledge of pedagogy, though some questions are framed in the context of children’s learning. The test may contain some questions that will not count towards your score.

The use of a calculator is not permitted.

Topics Covered

Representative descriptions of topics covered in each category are provided below. Examinees may be asked to demonstrate their knowledge of those topics in four major ways:

- Demonstrate understanding of the central concepts, skills, and tools of inquiry in the content area
- Apply that knowledge in the context of children’s learning
- Demonstrate understanding of the structure of the content areas
- Demonstrate understanding of the ways in which the content areas are interrelated

I. Language and Literacy (31%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in language and literacy; apply that knowledge in the context of children’s learning; demonstrate understanding of the structure of the content area of language and literacy; and demonstrate understanding of ways in which language and literacy are integrated across the content areas.

• Language Development

Knowledge of oral language development and its role in literacy development

- Phonetics, including phonological awareness, phonemic awareness, and phonics
- The development of knowledge of pragmatic uses of language, syntax, and prose structure
- The processes of oral language development, including production and comprehension of language and the relationship between oral language development, reading and writing skills, and children’s thinking and learning
- The ways in which English-language learners, bilingual children, and children with English-language dialectal differences develop and use language
- The major indicators of common speech and language delays and disorders, such as articulation problems

• Reading and Literature

The process of learning to read, reading strategies and skills, and the features of children’s literature

- The alphabetic principle, including how children begin to develop and build on the alphabetic principle, and the differences in this principle for children learning English and children learning other languages, and for bilingual children
- The steps and processes of learning to read (e.g., print awareness, concepts of print and book reading, making predictions, word-recognition skills, fluency)

- Major skills and strategies of reading comprehension (e.g., identifying main ideas, predicting, paraphrasing, questioning, making connections in a text)
- Strategies for reading new and difficult words (e.g., phonics, context, language structure, pictures)
- Children’s literature, including the features of children’s literature that facilitate early reading development, principles for selecting literature, and knowledge of various genres and types of literature
- Strategies for responding to themes, patterns, and forms of literature
- The major indicators of common reading difficulties (e.g., delays in learning to read, dyslexia, comprehension difficulties)

• Spelling

The process of learning to spell

- Spelling development, from invented to conventional spelling
- Relationships between sounds of speech and the spelling of words and between sight words and reading and writing development

• Writing

The process of learning to write, writing forms and modes, and conventions of written English

- Writing stages (e.g., scribbling, letterlike shapes, script, print)
- Writing forms and modes (e.g., various purposes, audiences)
- Steps in the writing process (brainstorming, writing, editing, revising, rewriting)
- Conventions of written English (e.g., sentence construction, punctuation, grammar)
- The role of writing in the development of reading skills
- The motivation to write and the factors influencing motivation

II. Mathematics (25%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in mathematics; apply that knowledge in the context of children’s learning; demonstrate understanding of the structure of the content area of mathematics; and demonstrate understanding of ways in which mathematics is integrated across the content areas.

Note: Mathematics questions on the test assess test takers’ understanding of fundamental mathematical skills and concepts central to the early childhood and early elementary curriculum, as described in the topic list below. Most questions are posed in the context of children’s learning; few questions present purely computational math problems.

- **Mathematical Thinking Skills**
Fundamental mathematical thinking skills, how they are interrelated, and how they are used in completing various mathematical exercises
 - Problem-solving skills (e.g., using investigation and experimentation to find answers to everyday mathematical problems)
 - Reasoning skills (e.g., making conjectures, drawing logical conclusions, using models)
 - Communication skills (e.g., connecting everyday language to mathematical language and symbols; presenting, discussing, reading, writing, and listening related to mathematics)
 - Connection-making skills (e.g., applying mathematics to other subject areas; using mathematics in daily life)
 - Representation skills (e.g., creating and using representations to organize, record, and communicate mathematical ideas)
- **Numbers and Operations**
Number sense and the meaning of operations
 - Numbers, ways of representing numbers, relationships between numbers, and number systems
 - Meaning of operations and how they relate to one another
- **Patterns and Relationships**
The foundations of algebraic reasoning, including the study of patterns and relationships among quantities and the mathematical study of change
 - Patterns and relationships
 - The concept of change in mathematics

- **Geometry and Spatial Sense**
The relationships among shapes and their properties and how they provide opportunities to reflect upon and interpret the physical environment
 - Characteristics and properties of two- and three-dimensional geometric shapes and the development of mathematical arguments about geometric relationships
 - The use of transformation and symmetry to analyze mathematical situations that children encounter in their daily lives
- **Measurement**
Measurement and how it is used to interpret the real world
 - The measurable attributes of objects and the units, systems, and processes of measurement
 - The use of appropriate techniques, tools, and formulas to determine measurements
- **Data**
The purpose of and methods for the collection and analysis of data
 - The selection and use of simple statistical methods to analyze data
 - The collection, organization, and display of relevant data to answer questions
 - The development and evaluation of inferences and predictions that are based on data

III. Social Studies (13%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in social studies; apply that knowledge in the context of children’s learning; demonstrate understanding of the structure of the content area of social studies; and demonstrate understanding of ways in which social studies is integrated across the content areas.

- **Identity and Individual Development**
The process of exploring, identifying, and analyzing identity, individual development, and relationships to others
 - Self-awareness and how it develops
 - Interpersonal relationships (e.g., norms of social behavior)
 - Group social skills (e.g., conflict resolution)
 - Family and social influences (e.g., the ways in which social systems influence daily life and personal choices)
 - Institutions and how they influence individual identity, relationships, beliefs, and behaviors

- Culture and Cultural Identity

The components of culture and why the study of culture is important

- Ways in which families, groups, societies, and cultures address similar human wants, needs, and concerns
- Ways in which cultural perspectives shape experiences and perceptions
- Language, stories, folktales, music, and artistic creations as expressions of culture and influences on the behavior of people living in a particular culture
- Ways in which people from different cultures think about and deal with their physical environment and social conditions
- Unity and diversity within and across groups

- People, Places, and Environments

Spatial thinking, geographic perspectives, and the relationships between human beings and their environment

- Geographic concepts (e.g., region, measurement, directional terms, landmarks, distance, location)
- Geographic literacy skills (e.g., the construction and use of maps, graphs, and charts)
- Physical and human characteristics of different places and how they impact human behavior and experience (e.g., rain forest, desert, urban and rural communities)
- The interdependence of living things, the environment, and the economy

- Time, Continuity, and Change

The ways in which human beings seek to understand their historical roots and to locate themselves in time

- Chronological thinking skills using an analysis of historical data (e.g., time lines, maps, graphs, and tables)

- Civics and Government

Civic participation and how people create and change structures of power, authority, and governance

- Key civics concepts (e.g., human dignity, justice, equality, tolerance, rule of law, citizenship)
- Civic participation in the context of classroom, community, nation, and world (e.g., raising an issue, making an informed decision, considering other perspectives, balancing individual and group needs)

IV. Science (13%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in science; apply that knowledge in the context of children's learning; demonstrate understanding of the structure of the content area of science; and demonstrate understanding of ways in which science is integrated across the content areas.

- Fundamental Concepts and Processes for Scientific Inquiry

The fundamental concepts and processes of scientific inquiry across and within the various scientific disciplines of physical science, Earth and space science, life science, and science and technology

- Unifying science concepts (e.g., systems, cycles, constancy and change)
- The scientific process (e.g., formulating questions, testing hypotheses, and communicating information to help explain the world)
- Basic science skills (e.g., observing, describing, and classifying; making inferences; communicating and representing findings; using simple tools; collecting and using data)

- Physical Science

The basic phenomena of the physical world

- Properties of objects and materials (e.g., states of matter)
- Light, heat, electricity, and magnetism (e.g., reflection, refraction, and absorption of light; conduction and production of heat)
- Position and motion of objects (e.g., the position and motion of an object can be changed by exerting force; vibrating objects can produce sound)

- Earth and Space Science

The basic phenomena of Earth and space

- Objects in the sky, natural and human-made, and their properties, movements, and locations (e.g., Sun, Moon, stars, airplanes)
- Changes in Earth and the sky (e.g., seasonal and daily weather patterns, erosion)
- Properties of Earth materials (e.g., different physical and chemical properties of Earth materials, including solid rocks and soils, fossils, water, and gases)

- Life Science

Living organisms and life systems

- Basic characteristics of organisms (e.g., their basic needs and behaviors; the structures that support growth, survival, and reproduction)

- The life cycles of organisms
- The relationship between organisms and their environment

V. Health And Physical Education (9%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in health and physical education; apply that knowledge in the context of children's learning; demonstrate understanding of the structure of the content areas of health and physical education; and demonstrate understanding of ways in which health and physical education are integrated across the content areas.

- Health
Fundamental health concepts and skills
 - Health promotion, wellness, and disease prevention
 - Major risks to children's health and safety and the prevention of those risks
 - The basic structure and function of human body systems
 - The influence of physical, emotional, and social factors on personal health (e.g., family influences; pollution)
 - The impact of health on learning and development in the content areas
- Physical Education
Fundamental physical education concepts and skills
 - Motor skills and movement patterns, including knowledge of their typical developmental progression and activities that promote their development
 - Movement and body-awareness concepts and principles (e.g., flexibility, muscular strength)
 - How to achieve and maintain an appropriate level of physical fitness
 - The ways in which physical activity provides opportunities for learning, enjoyment, challenge, self-expression, and social interaction
 - The influence of physical, emotional, and social factors on physical fitness and activity level
 - The impact of physical activity and fitness on learning and development in the content areas

VI. Creative And Performing Arts (9%)

Demonstrate understanding of central concepts, skills, and tools of inquiry in the creative and performing arts; apply that knowledge in the context of children's learning; demonstrate understanding of the structure of the content areas of the creative and performing arts; and demonstrate understanding of ways in which the arts are integrated across the content areas.

- Purposes and Functions of the Arts
How and why artworks are created, processes for responding to artworks, and the purposes of artworks
 - The artistic processes of creating, performing, and responding and their interrelationships
- Structure and Processes of Art
The basic elements, principles, and processes in visual art, music, dance, and theater
 - The components and elements of art (e.g., color, line, texture, pitch, tempo, rhythm)
 - Organizing principles of art (e.g., repetition, contrast, balance, unity, movement, pattern)

Sample Test Questions

The sample questions that follow illustrate the kinds of questions in the test. They are not, however, representative of the entire scope of the test in either content or difficulty. Answers with explanations follow the questions.

Directions: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case and fill in the corresponding lettered space on the answer sheet with a heavy, dark mark so that you cannot see the letter.

LANGUAGE AND LITERACY

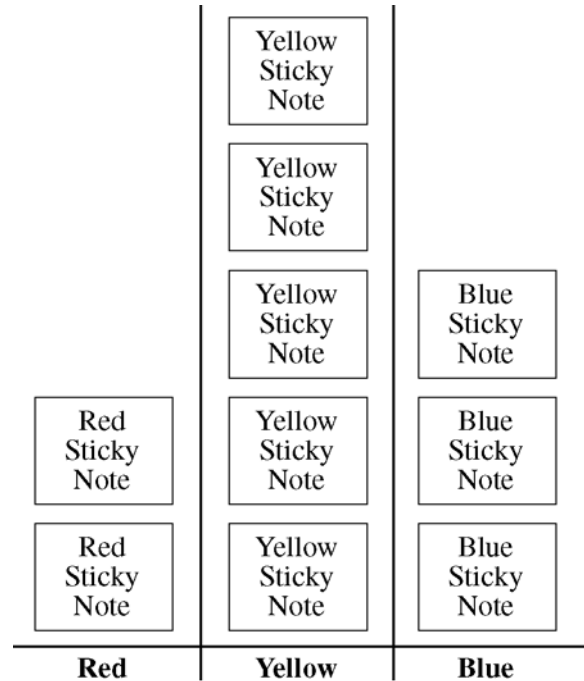
1. A teacher provides support for small, flexible groups of beginning readers. As students read a text or book that is unfamiliar to them, the teacher works with them to teach them how to use a variety of reading strategies. Which of the following reading approaches is described?
 - (A) Direct instruction
 - (B) Literature circles
 - (C) Guided reading
 - (D) Read-aloud
2. A teacher reads aloud *Where the Wild Things Are*, a picture storybook in which a boy named Max encounters wild monsters that are vividly portrayed. The teacher then shows the students picture cards depicting scenes from the beginning, middle, and end of the story. Which of the following concepts of literary structure is the teacher helping students understand?
 - (A) Plot sequence
 - (B) Point of view
 - (C) Character development
 - (D) Setting
3. Which of the following strategies is most often used when assessing reading comprehension?
 - (A) Ability to spell inventively
 - (B) Ability to decode new words
 - (C) Ability to identify the main idea
 - (D) Ability to create rhyming patterns
4. A kindergarten teacher sets up a literacy center where the students match pictures of objects that begin with the same sound. Which of the following skills is the teacher trying to develop in students through the center?
 - (A) Phonics
 - (B) Vocabulary
 - (C) Letter recognition
 - (D) Phonemic awareness
5. After a visit to a rescue squad, a preschool teacher, Ms. Espinosa, works with 3-year-old students to write a letter to the rescue squad employees to thank them for the experience. The students contribute ideas, and the teacher writes the ideas on large chart paper. As Ms. Espinosa writes, she brings to students' attention several early literacy skills. Which of the following skills would be most appropriate for Ms. Espinosa to focus on with her 3-year-old students?
 - (A) Paragraphing ideas
 - (B) Spelling words correctly
 - (C) Expressing speech in print
 - (D) Capitalizing proper nouns
6. Which of the following best describe the role of the teacher during a shared book experience?
 - (A) The teacher listens to one student read aloud, providing guidance on decoding and comprehension strategies.
 - (B) The teacher monitors the students as they read in pairs, encouraging each student to coach the other.
 - (C) The teacher organizes a system so that students can borrow books matching their appropriate reading level from the classroom reading area.
 - (D) The teacher reads a book to the class, modeling positive reading behaviors and involves students in the reading process.

7. A first-grade teacher is planning a language arts activity that will give students who are English-language learners an opportunity to strengthen both reading comprehension skills and English-speaking skills. Which of the following activities would be most appropriate in accomplishing this goal for English-language learners?
- (A) Retell a story using illustrations from the story
 - (B) Take turns reading different parts of a story out loud
 - (C) Use vocabulary words from the story for handwriting practice
 - (D) Draw a picture and write a caption for their favorite part of the story
8. When a student incorrectly reads a word within a sentence, a second-grade teacher responds by asking the student to recall the beginning consonant sound of the word. Which of the following cuing systems is the teacher encouraging the student to use?
- (A) Personal schema
 - (B) Graphophonemic
 - (C) Semantic
 - (D) Syntactic

MATHEMATICS

9. A prekindergarten teacher is doing a lesson on categorizing classroom objects into sets. Which of the following mathematical concepts must children have some familiarity with before attempting this activity?
- (A) Understanding patterns and relationships
 - (B) Recognizing the position of whole numbers
 - (C) Comparing two- and three-dimensional shapes
 - (D) Matching values with their numerical representations
10. A teacher taps each child in line, calling out “first, second, third, fourth...” Which of the following types of numbers is the teacher using?
- (A) Nominal
 - (B) Cardinal
 - (C) Ordinal
 - (D) Real

11. A preschool teacher has each of the ten students in the class pick their favorite of three colored sticky notes (e.g., red, yellow, blue). Students then work with the teacher to create a chart of their color selection.

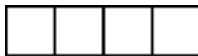


Which of the following math skills does this activity best reinforce?

- (A) Properties of figures
 - (B) Application of formulas
 - (C) Intuitive concepts of chance
 - (D) Data collection, organization, and display
12. A kindergarten teacher asks questions that encourage students to think numerically and make qualitative judgments. In the morning, the teacher might ask students to figure out how many students are missing or absent. During snack time, the teacher might ask students if there are enough snack cups for everyone in the classroom. During recess, the teacher might ask students to determine how many balls they take outside so they know how many balls to bring back inside. Which of the following mathematical concepts is the teacher reinforcing?
- (A) Classifying
 - (B) Counting
 - (C) Patterning
 - (D) Ordering

13. A first-grade teacher is teaching students how to use and read a standard ruler. The teacher explains to students that when an object is measured, one end of the object must be placed at the 0 mark on the ruler. A student asks, "Why shouldn't I measure by placing the object at the 1 mark of the ruler?" Which of the following is the most instructionally appropriate response by the teacher?
- (A) "We have to start measuring at the 1 mark on the ruler because that is how the ruler was made, and we need to follow standard conventions."
 - (B) "We have to start measuring at the 0 mark on the ruler because we do not want to miss the first unit of measurement on the ruler."
 - (C) "We have to start measuring at the 0 mark on the ruler to maximize usage of space on the ruler."
 - (D) "We have to start measuring at the 0 mark on the ruler because I am the teacher and that is how I learned to measure when I was your age."

14. A second-grade class has been learning about the characteristics and properties of geometric shapes. As a challenge activity, the teacher draws the following picture on the board and asks students to identify how many different rectangles they can find in the picture.



Which of the following students has correctly identified the number of rectangles?

- (A) Aissa, who answered "1."
- (B) Gimbya, who answered "2."
- (C) Halima, who answered "4."
- (D) Jabulela, who answered "10."

SOCIAL STUDIES

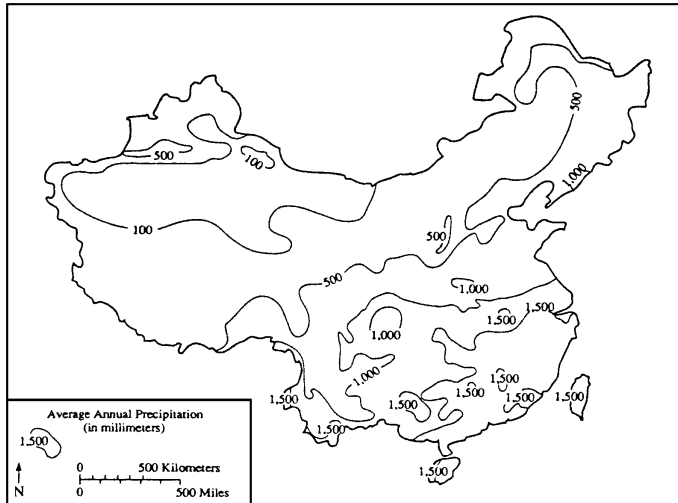
15. Children are learning about the geologic formation of mountain ranges and the way in which the elevation and steepness of the mountains in a range can reveal the range's relative age. Which of the following types of maps is most useful in determining whether one mountain range is older than another?
- (A) A road map indicating the highest point of elevation within a mountain range
 - (B) A topographic map featuring contour lines
 - (C) An economic map using symbols to indicate natural resources within mountain ranges
 - (D) A climate map showing temperature zones within mountain ranges
16. As a quick assessment of lesson vocabulary, a teacher writes the following definition on the board:

A set of expectations governing the behavior of a person holding a particular position in society.

The teacher then asks students to write on their whiteboard the vocabulary word related to the definition. Which of the following students correctly identified the vocabulary word?

- (A) Bob, who wrote "values."
- (B) Danielle, who wrote "a role."
- (C) Mike, who wrote "culture."
- (D) Gretchen, who wrote "status."

17. A teacher is teaching a unit on the ways in which people from different cultures deal with their physical environment. The teacher wants students to understand that different parts of the environment can affect people differently. The map below shows which of the following to be true about precipitation in China?



- (A) The North receives more precipitation than the South.
- (B) The driest region is the Northeast.
- (C) The Southeast receives the most precipitation.
- (D) The West receives more precipitation than the East.

SCIENCE

18. Which of the following activities would be most effective in introducing kindergartners to the concept of how plants transport water?
- (A) Demonstrating that a celery stalk can be peeled lengthwise but not crosswise
 - (B) Placing celery stalks in water colored with a dye and observing the results
 - (C) Collecting rainwater in a rain gauge and comparing the amount of rainfall to the plant's growth rate
 - (D) Planting bean seeds in paper cups, placing them on the windowsill, and watering daily

19. A first-grade teacher is teaching children about how Earth's surface changes. Which of the following agents changes the appearance of Earth's surface most widely and most consistently?

- (A) Fire
- (B) Volcanism
- (C) Water
- (D) Wind

20. A second-grade teacher has taught students about hurricanes and tornadoes. The teacher now wants students to compare hurricanes and tornadoes. Which of the following students has correctly compared hurricanes and tornadoes?

- (A) Hazeletta – Both hurricanes and tornadoes form only over warm oceans.
- (B) Frank – Both tornadoes and hurricanes have very high winds.
- (C) Margaux – Hurricanes may cause great property damage, but tornadoes do not cause property damage.
- (D) Hernando – Tornadoes may cause human fatalities, but hurricanes do not cause human fatalities.

CREATIVE AND PERFORMING ARTS

21. A child is able to follow fast and slow songs by playing appropriate rhythm patterns on the drum. Which of the following attributes of music does the child understand?

- (A) Dynamics
- (B) Pitch
- (C) Tempo
- (D) Harmony

22. A preschool teacher is teaching students about a color circle, or color wheel, which is an organization of color hues around a circle. Red, yellow, and blue are examples of which of the following kinds of colors on the color circle?

- (A) Complementary
- (B) Primary
- (C) Secondary
- (D) Tertiary

HEALTH AND PHYSICAL EDUCATION

23. Which of the following skills must be learned before a child can skip?
- (A) Hopping
 - (B) Running
 - (C) Walking backward
 - (D) Crab walking
24. A preschool teacher is teaching students to forward roll. Which of the following is a problem most characteristic of preschoolers' forward rolling?
- (A) Keeping the chin tucked
 - (B) Keeping the knees and hips flexed
 - (C) Losing the curl
 - (D) Using the hands to cushion the head contact

Answers

LANGUAGE AND LITERACY

1. The correct answer is C. Guided reading is described. It is one component of a four-block reading program and consists of self-selected reading, shared reading, writing, and working with words. Direct instruction (choice A) is a highly organized, teacher-directed approach in which the teacher uses articulated lessons in which cognitive skills are broken down into small units, sequenced deliberately, and taught explicitly. Literature circles (choice B) is a student-centered reading activity in which each member of the group is assigned a role as the group discusses what they have read. Read-aloud (choice D) involves the teacher reading the story and the students listening to the story.
2. The correct answer is A. Although all answers describe an aspect of literary structure, only A, plot sequence, refers to the progression of events in a story, which would be indicated on the cards depicting the beginning, middle, and ending of the story.
3. The correct answer is C. Comprehension is a strategic process by which readers construct meaning. Therefore, identifying the main idea is a critical component of this process. The other answer choices are relevant to decoding printed material but not to comprehending text.
4. The correct answer is D. Phonemic awareness skills (choice D) involve matching words or pictures with beginning sounds. Phonics skills (choice A) involve understanding how letters combine to make sounds and words. Students are ready for phonics after they have phonemic awareness. Vocabulary skills (choice B) involve building students' receptive vocabulary and their expressive vocabulary. Letter recognition skills (choice C) involve students recognizing letters regardless of the color or size of the letter or whether the letter is written in crayon on paper or molded in plastic.
5. The correct answer is C. It is most appropriate for the preschool teacher to focus on expressing speech or verbal ideas in print, such as writing ideas on large chart paper. The other choices are not appropriate for 3 year olds and are learned after students understand the expression of speech in print.
6. The correct answer is D. In a shared book experience, the teacher introduces a text and allows time for students to observe the illustrations and predict what the story may be about. The teacher then models positive reading behaviors. For example, the teacher might point to words read or engage the students in repetitive text or predictions.
7. The correct answer is A. English-language learners retelling the story using illustrations from the story (choice A) strengthen both reading comprehension skills and English-speaking skills. The other choices do not strengthen both reading comprehension skills and English-speaking skills in English-language learners.

8. The correct answer is B. Grapho-phonemic cuing systems (choice B) refer to sounds and symbols and print conventions such as letters and beginning and endings of words. Semantic cuing systems (choice C) refer to meaning such as prior knowledge or story sense. Syntactic cuing systems (choice D) refer to text structure such as grammatical patterns and language structures. Personal schema (choice A) focuses on the experiences and knowledge that students bring to the text.

MATHEMATICS

9. The correct answer is A. The recognition of patterns and relationships is necessary for categorization. A child may be able to sequence numbers (choice B) or match values with numerical representations (choice D) without relating the attributes of objects to one another, as is necessary in categorizing. Although some of the objects presented may be categorized by their dimension (choice C), merely distinguishing between two- and three-dimensional objects is not adequate for distinguishing the other attributes that comprise a category or form a basis of comparison.
10. The correct answer is C. Ordinal numbers (choice C) tell the order of things in relation to a set: first, second, third. Cardinal numbers (choice B) are used to show quantity, as in three kittens, twelve buttons. Nominal numbers (choice A), such as zip codes or area codes, are used solely for identification and have no relation to numerical values. Real numbers (choice D) consist of all rational and irrational numbers. Some real numbers are cardinal and some are not.
11. The correct answer is D. The activity best reinforces data collection, organization, and display. The students are collecting data by selecting one of three colored sticky notes each. With the teacher's help, the students are organizing the data on the chart. Once all of the students have placed their colored sticky note on the chart, the chart displays the data.
12. The correct answer is B. The teacher is reinforcing the mathematical concept of counting. In the morning, the students would need to count how many students are absent based on the number of empty seats. During snack time, the students would need to count the number of snack cups. During recess, the students count the number of balls they take outside. Students classify (choice A) objects by a general attribute, such as shape, size, color, or type of material. Students learn to order (choice D) based on "more than" or "less than" after they learn to classify. Students can find patterns in the flag or create patterns with colored beads (choice C).

13. The correct answer is choice B. It is most instructionally appropriate for the teacher to explain to the student that the distance between the 0 mark on the ruler and the 1 mark on the ruler indicates a unit of measurement. Choice A and choice D are not the correct answer, because they do not answer the student's question about the content being taught. Choice C is not the correct answer, because measurement is not about the usage or space on the ruler but rather about capturing the standard units.

14. The correct answer is choice D. The student first has to recall that a square is a rectangle. There are 4 square rectangles in the figure. There are 3 rectangles, consisting of two adjacent squares. There are also 2 rectangles, consisting of three adjacent squares. There is 1 rectangle consisting of the entire figure. There are 10 (i.e., $4 + 3 + 2 + 1$) rectangles in the picture.

SOCIAL STUDIES

15. The correct answer is B. A topographic map containing contour lines indicates the elevation and steepness of an area of land, information necessary to determine the age of a mountain range. A road map, choice A, may provide the elevation of an individual peak in a range, but that information would not be adequate to show the elevation of the highest peak in a range. Choice C, dealing with natural resources, does not contain any of the two necessary indicators, nor does choice D, which contains climate variables.

16. The correct answer is B. Choice B is correct because roles are culturally defined rules for proper behavior associated with every status. Choice A is not correct because values are a culture's general orientation toward life. Choice C is not correct because culture refers to all that human beings learn to do, to use, to produce, to know, and to believe as they grow to maturity and live out their lives in the social groups to which they belong. Choice D is not correct because status refers to culturally and socially defined positions occupied by individuals throughout their lifetime.

17. The correct answer is C. The map shows that the greatest amount of precipitation (1,500 millimeters annually, on average) is in southeast China, compared to other areas that receive far less precipitation (less than 500 millimeters annually, on average).

SCIENCE

18. The correct answer is B, which concretely illustrates the pathway of plant water transportation up the celery stalk. Choice A does not relate to how a plant transports water. Choices C and D may serve to model that plants drink, but not how plants transport water.

19. The correct answer is C. While the agents given in the other choices do influence and change the appearance of Earth's surface, water is constantly acting on terrestrial features in the form of precipitation, glaciers, streams, rivers, and oceans. Therefore, water contributes to the weathering of the land surface in most parts of the globe.

20. The correct answer is B. Both hurricanes and tornadoes have very high winds. Choice A is not correct because hurricanes require warm ocean surface waters to develop and tornadoes are associated with thunderstorms and form over land. Choice C is not correct because both hurricanes and tornadoes may cause property damage. Choice D is not correct because both hurricanes and tornadoes may cause human fatalities.

CREATIVE AND PERFORMING ARTS

21. The correct answer is C. Tempo describes the rate of speed or pace of a piece of music. Dynamics (choice A) is its degree of softness or loudness. Pitch (choice B) is its highness or lowness. Harmony (choice D) is the simultaneous combination of notes.

22. The correct answer is B. Red, yellow, and blue are primary colors (choice B). These are the primary colors because all other colors are derived from these three colors. Secondary colors (choice C) include green, orange, and purple. These colors are formed by mixing the primary colors. Tertiary colors (choice D) include yellow-orange, red-orange, red-purple, blue-purple, blue-green, and yellow-green. These colors are formed by mixing a primary and secondary color. Complementary colors (choice A) are two colors that are opposite each other on the color wheel.

HEALTH AND PHYSICAL EDUCATION

23. The correct answer is A. The ability to hop is a skill that is required for skipping. None of the skills mentioned in choices B, C, or D is required for learning to skip.

24. The correct answer is C. Choice C is characteristic of early stages of performing the forward roll. Choices A, B, and D are all characteristic of intermediate or advanced levels of performing the forward roll.



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