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- Finding out what's on the Praxis
- Seeing how the Praxis is scored
- Taking some practice questions
- Reviewing the results of your practice

Chapter 1
The Praxis Elementary Education: CIA Test (5017)

For decades, teacher candidates have been taking assessments in order to meet certification requirements. You may have taken a Praxis Core exam (or some earlier version) to get into a teaching program at a college or university. Once you completed it, perhaps you thought that was the last you would see of Praxis.

Not so fast! If you want to become a teacher, you are likely to encounter more Praxis exams on your road to certification. Many states use the Praxis Core and/or one or more Praxis subject exams as certification tests to show that you've mastered the skills needed to be a highly competent teacher. Praxis Elementary Education: Curriculum, Instruction, and Assessment (5017) (or Praxis Elementary Education: CIA) is one of these subject exams. Teaching licenses often are directly tied to passing this exam and perhaps other subject tests as well. This chapter gives you an overview of what you need to know about this exam.

According to the Educational Testing Service (ETS) this exam is designed for prospective teachers in the elementary grades. It covers the breadth of material a new teacher needs to know while assessing content knowledge, pedagogical principles, and processes. To be successful on this exam, candidates must show mastery of curriculum planning, instructional planning, and assessment planning in the areas of reading and language arts, mathematics, science, social studies, art, music, and physical education. Luckily, you have this book to help you make the Praxis Elementary Education: CIA exam a milestone rather than a roadblock.

REMEMBER

Also included in this book is the preparation for the Praxis Elementary Education: Content Knowledge (5018). This exam differs from the 5017 designation in that candidates must show mastery of content in four areas: reading and language arts, mathematics, social studies, and science. This knowledge is exhibited through questions assessing conceptual understanding, procedural awareness, interpretation, integration, and application.

The items presented on both exams will be aligned to the appropriate state and national standards for that subject area. Examinees should also note that the tests may contain some questions that will not count toward their score. Almost every state in the country uses some form of the Praxis. Contact your state department of education for specific licensure details.

TIP

For details on preparing for the Praxis Elementary Education: Content Knowledge, proceed to Chapter 2. Content review chapters for this test are 4, 5, 6, and 7. The practice test and explanations are Chapters 17 and 18.

Analyzing the Format of the Test

The newly developed Praxis Elementary Education: CIA exam uses 120 questions to evaluate your curriculum development, instructional, and assessment abilities in five subject-area groups:

- Reading and language arts
- Mathematics
- Science
- Social studies
- Art, music, and physical education

To date, all 120 questions are selected-response type questions. However, it doesn't necessarily mean the questions are easy!

The topics the test covers

According to the Educational Testing Service (ETS), the 120 questions of the Praxis Elementary Education: CIA exam are divided among five subject-area groups according to the proportions you see in Table 1-1.

TABLE 1-1 Breakdown of Praxis Elementary Education

Test Subject	Approximate Number of Questions	Approximate Percentage of the Exam
Reading and language arts	37	31%
Mathematics	31	26%
Science	20	16%
Social studies	17	14%
Art, music, and physical education	15	13%

In each of the five subject areas, questions are related to relevant national standards and test your knowledge of how to help students develop an understanding of particular areas of knowledge or how to help them acquire and use key skills.

The questions about each subject are focused on curriculum, instruction, or assessment.

- **Curriculum:** Curriculum questions require you to show that you understand developmentally appropriate curriculum planning. Specifically, you need to be ready to demonstrate that you can sequence lessons; plan strategies to enhance students' understanding and, inevitably, correct their misunderstandings; and make connections to and from one subject and other subject areas, such as connecting reading and math concepts, or social studies and science.
- **Instruction:** Instruction questions require you to show that you understand how to design instruction to meet the culturally and academically diverse needs of your students. They also test your ability to select and use developmentally appropriate instructional methods, strategies, and resources that support learning in the major focus areas of each subject.
- **Assessment:** The assessment questions for every subject area require you to show that you know how to evaluate the effectiveness of your instruction and your students' progress in each subject area. To answer these questions correctly, you need to be ready to show that you can design, use, and interpret a variety of formative and summative assessments. You must be able to recognize the misconceptions students may develop and devise ways to reteach in order to correct those misconceptions.

Reading and language arts

The topics addressed by questions in the reading and language arts section reflect the state and national standards for language arts. You'll see questions about:

- **Reading foundational skills:** These questions test your understanding of how to help students develop concepts of print, phonological awareness, phonics and word-analysis skills, and fluency.
- **Reading literature and informational texts:** These questions test your understanding of how to help students comprehend literature and informational texts; ask and answer questions about texts; identify and organize main ideas and details; use text features; identify point of view; distinguish among fact, opinion, and reasoned judgment; compare texts and different formats; select appropriate texts; and progress toward independent reading.
- **Writing:** These questions test your knowledge of how to help students do research and develop their writing skills in a variety of genres.
- **Language:** These questions require you to show your knowledge of how to help students understand conventions of English, build their vocabularies, and interpret figurative language.
- **Speaking and listening:** These questions test your knowledge of how to help students develop active listening skills, oral presentation speaking and listening skills, and skills in using multimedia in presentations.

Mathematics

The topics addressed in the math section also reflect state and national standards. You'll see questions about:

- **Numbers and operations:** These questions test your knowledge of how to help students develop their understanding of and ability to use natural numbers, whole numbers, integers, and rational numbers; proportional relationships; and number theory.
- **Algebraic thinking:** These questions test your knowledge of how to help students develop their understanding of and ability to use expressions, equations, and formulas, as well as linear equations and inequalities.
- **Geometry and measurement:** These questions test your knowledge of how to help students develop their understanding of one-, two-, and three-dimensional figures; coordinate planes; and measurement.
- **Data, statistics, and probability:** These questions test your knowledge of how to help students develop their understanding of and ability to use measures of center, data collection and display, and probability.

Science

In the science section of the exam, you'll see questions about instructing students in the following topics:

- **Science concepts, inquiry, and processes:** These questions test your knowledge of how to help students develop their understanding of science and science disciplines; scientific inquiry; how to plan, conduct, and observe investigations; and how to choose the appropriate tools to gather data, organize and analyze information, communicate results, and come up with reasonable explanations.
- **Life science:** These questions test your knowledge of how to help students learn about the characteristics, life cycles, and environments of organisms.
- **Earth and space science:** These questions test your knowledge of how to help students develop their understanding of the interrelationships among Earth and space systems; astronomy; Earth patterns, cycles, and change; geology; hydrology; meteorology; oceanography; and soil science.
- **Physical science:** These questions test your knowledge of how to help students develop their understanding of physical and chemical changes, temperature and heat, sound, light, electricity, magnetism, force, motion, energy, and matter.
- **Health:** These questions test your knowledge of how to help students develop their knowledge of healthy living, including growth, nutrition, safety, and well-being, as well their knowledge of communicable and common diseases and substance abuse.

Social studies

In the social studies section of the exam, you'll see questions about the following topics:

- **Information processing skills:** These questions test your knowledge of how to help students develop their understanding of how to locate, analyze, and synthesize social-studies information and how to select and use appropriate materials and equipment.

- **Geography:** These questions test your knowledge of how to help students learn about relationships among human and physical systems, the environment, and society, as well as learn about states, regions, the United States, and the world.
- **History:** These questions test your knowledge of how to help students develop their understanding of the interrelationships between the past and the present, causes and effects of historical events, U.S. history, and classical societies.
- **Government, civics, and economics:** These questions test your knowledge of how to help students develop their understanding of basic economic concepts; governments' roles in economics, democracy, and politics; and U.S. government.
- **Anthropology and sociology:** These questions test your knowledge of how to help students develop their understanding of how groups and individuals are affected by conditions and events; how people from different cultures interact with their physical environments and social environments; as well as communication, transportation, and technology.

Art, music, and physical education

This section of the exam tests your understanding of how to teach three very different subjects:

- **Art:** These questions test how well you develop students' understanding of elements and principles of art; visual communication and production; and art history, criticism, and aesthetics.
- **Music:** These questions test your understanding of how to help students develop their understanding of elements of music, such as texture, harmony, melody, and rhythm; their knowledge of music notation and terminology; and their ability to compose music.
- **Physical education:** These questions test your ability to help students exercise and develop physical fitness, game and sports skills, and body management and locomotor skills, as well as develop their knowledge of safety, social discipline, and healthy lifestyles.

The types of questions asked

Praxis Elementary Education: CIA is composed entirely of selected-response questions, also known as multiple-choice questions. You don't have to write any essays or even short answers. You've probably been answering multiple-choice questions since you were old enough to wield a No. 2 pencil on your first standardized test. So you may think you know all there is to know about them. But, Praxis puts new twists on a few of these old favorites in two ways: first, by changing the numbers of correct answers, and second, by varying the type of response you need to make. It's not all just clicking the correct ovals.

Number of correct answers

A huge majority of the questions on the Praxis Elementary Education: CIA exam have a single correct answer. The remainder have more than one correct answer. Occasionally, questions with more than one correct answer specify how many answers you should pick, but far more often, this type of question doesn't tell you how many of the choices are correct. The following sections take a closer look.

SINGLE CORRECT RESPONSE

You can think of these as the basic, no-frills model of the multiple-choice question. They have one and only one correct answer. On the Praxis, the question typically includes an instruction to remind you that the question has only one correct answer, such as, "Answer the question by clicking the correct response."


TIP

ETS suggests an effective approach for answering multiple-choice questions that have a single answer. Eliminate any answers you know are incorrect to narrow down the choices before picking a possible answer. Then, try out your preliminary answer by referring back to the question. For example, suppose a question shows a student-generated graph that is supposed to plot the student's answers to several equations. Does it make sense to say that giving the student extra instruction about the horizontal and vertical axes of a graph would address the misunderstanding shown in the student's work sample? If not, eliminate that option and decipher the remaining choices similarly until you find the one that fits.

MORE THAN ONE CORRECT RESPONSE

This souped-up version of a multiple-choice question has two or more correct answers, instead of just one. A few of these will helpfully tell you the number of correct answers, often emphasized in capital or boldfaced letters. For example, you might find a question like this accompanying an example of a paragraph a student is supposed to peer edit: "Which TWO types of errors can a peer editor find in this paragraph?"


TIP

To get points for answering a question that tells you the number of correct answers, following the instructions is essential. Click the specified number of answers, whether it is two answers, three answers, or some other number.

Most of the time, however, the question does not tell you how many correct responses to choose. One of these may look like a no-frills multiple-choice question at first glance, but then you may notice the instruction, "Click on your choices." How many choices? Well, that's up to you. Maybe the question only has one correct answer. Maybe it has two or three. It's possible that every single option is correct.


TIP

When a question tells you to "Click on your choices" but does not tell you how many choices are correct, you need to examine each answer option individually and decide whether or not it is correct.

Different types of answers

The vast majority of items on the official Praxis practice test and the actual test itself are the multiple-choice format you're probably most familiar with. You read the question and click on the oval next to the correct answer choice (or choices). However, you may also encounter items that ask you to indicate your choice in some other fashion. Sometimes, the difference may be subtle; you may be asked to click the boxes, rather than the ovals, beside all the correct answers, or you may choose your answer from a drop-down menu of choices. Other times, the task will look quite different from what you see in a standard multiple-choice question. You may be asked to:

- **Choose an answer by clicking on a part of a graphic.** For example, a question might instruct you to click on a part of a map to indicate where you would direct your students' attention during a lesson on interpreting the scale of a map.
- **Select a sentence from a passage.** For example, a question may ask you to click on the sentence from a student's opinion paragraph that indicates whether or not the student has supported his opinion with evidence.
- **Drag answer choices into the correct spots in a table or list.** For example, you might be asked to drag several examples of student writing into a table to show which example indicates that a student needs practice in a particular reading skill.

In the practice tests both in this book and online, you'll find many examples of various multiple-choice questions with varying numbers of answers. Taking all of our practice tests will give you a consistent feel of what you will see on the actual test so that you'll have a chance to refine your own personal strategy for nailing the answers every time.

How the Test Is Scored

Praxis Elementary Education: CIA is divided into five sections, each focused on a specific subject area (or on a group of subjects) that you're likely to teach: reading and language arts; mathematics; science; social studies; and art, music, and physical education. When you receive your score report, you will see a breakdown of raw points for each section and a total score. The total score is calculated from your raw points and adjusted to a scale that ranges from 100 to 200 points.

Racking up raw points

Your total score on the exam is based on the number of raw points you earn in each section. The available numbers of raw points are very similar to the percentages of the exam represented by each subject area:

- **Reading and language arts:** 31 raw points available
- **Math:** 26 raw points available
- **Science:** 16 raw points available
- **Social studies:** 14 raw points available
- **Art, music, and physical education:** 12 raw points available

Your raw score is based on the number of questions you answer correctly. ETS points out in its preparation materials that your test may contain some questions that do not count toward your score. "Which questions?" you ask. Well, if they told you that, you probably wouldn't bother answering them, would you? Nope, and that's why they don't tell you. You need to try and answer every single question on your exam.


TIP

You don't lose any points for answering a question incorrectly. If you were to answer every single question incorrectly, your raw score would be 0, which is exactly what it would be if you didn't answer any questions at all. That's why you have nothing to lose by guessing if you don't know the answer to a question.

Making sense of your score

The number that may interest you the most when you get your score report is your final score, which ETS simply calls "your score." Your score determines whether or not you pass the test. No wonder it gets so much attention!

Your score will be a number from 100 to 200. It is calculated by taking your raw points—which are based on the number of questions you answer correctly—and comparing them to the number of questions on the test. This conversion of your raw points to your total score also adapts to the level of rigor of that particular testing edition.

To achieve a total score that is considered passing by most states, you must answer at least 60 percent of the questions correctly. This gives you a benchmark to measure yourself against as you go through the practice tests in this book or online.

TIP

If you fail the Praxis the first time you take it (or if you've already failed it), you can look at your scores for each content category to see where you did well and where you struggled. Use those scores to help you target what to study most before you take the exam again.

Remember, though, that each state that requires passing the exam has its own minimum score. What constitutes a passing score in one state may not be a passing score in another state. Contact your state or local department of education for the minimum passing score.

Getting a Very Early Taste of 5017

In a moment, this chapter will lead you to some practice questions that will give you a basic idea of what to expect on the Praxis Elementary Education: CIA test. This is an ideal time for you to begin studying actual test material.

Because the practice questions that are coming right up will prepare you for the practice questions later in the book, what you are really about to do is practice for practice. You can use these first sets of practice results to help you determine what you need to focus on in the rest of your preparation. You might realize that you have a firm grasp on math instruction but know very little about science curriculum or perhaps that you need to focus on learning social studies content knowledge. However, no matter what you realize from looking at your practice question results, you should thoroughly study all areas to achieve the best possible real test score.

Although the big test you are preparing for is timed, we do not recommend timing yourself when you try the practice questions in this chapter. You should first learn to do something well before you learn to do it fast.

Because time will not be a factor for these questions, you don't need to worry about timing techniques. Pace yourself and do your best to answer every question. Keep in mind that leaving exam questions blank does not benefit you. On the test you are preparing for, there is no penalty for guessing and getting a wrong answer, aside from not getting the points a right answer would have gotten you.

We also encourage you not to check your answers as you go through these practice questions. Knowing for sure that you missed several questions in a row can be discouraging and tempt you to give up too easily. Perhaps, knowing that you are on a roll at this stage can make you worry about jinxing your winning streak. Plus, when you look up one answer, you can easily see the other ones. That makes the practice less of a practice.

Okay, here are the questions. Good luck!

Reading and Language Arts practice questions

These practice questions are similar to the reading and language arts questions that you'll encounter on the Praxis Elementary Education: CIA test.

1. Answer the question by choosing the correct response.

A teacher observes that a student is having difficulty reading a list of words that includes "chow," "shot," "whip," and "then." The teacher can best address this student's needs by adding instruction in which of these phonetic elements?

(A) diphthongs

(B) vowel blends

(C) consonant blends

(D) consonant digraphs

2. Answer by choosing all the correct responses.

A student writes the following and reads aloud, "It was very cold and dark in the cave, but I could see a lot of bats."

It wz vr kld dk n cv bt I kd c lt v btz

Which skills is this student demonstrating the ability to perform?

Select **all** that apply.

(A) Use spaces between words.

(B) Partially include medial vowels.

(C) Partially spell consonant blends.

(D) Use correct directionality of print.

3. Answer the question by choosing the correct response.

Third-grade students are reading informational text that describes the migration patterns of gray whales. Which is the best graphic organizer for students to complete in order to help them understand the sequence of the whales' yearly travels?

(A) a T-chart

(B) a K-W-L chart

(C) a content map

(D) a Venn diagram

Questions 4 and 5 refer to the following passage.

During a discussion after reading one of Aesop's fables to first-graders, a teacher asks students the following questions:

1. Why didn't the lion think the mouse would ever help him?
2. Can mice and lions really talk?

4. Answer the question by choosing the correct response.

Which comprehension task does answering Question 1 require students to do?

(A) identify key details

(B) sequence specific events

(C) understand the central lesson

(D) describe character motivations

5. Answer the question by choosing the correct response.

Discussion of students' answers to Question 2 is likely to help the teacher introduce students to which type of figurative language?

(A) personification

(B) onomatopoeia

(C) metaphor

(D) simile

6. Answer the question by choosing the correct response.

A teacher thinks aloud, "I wonder what this word, *caterwauling,* could possibly mean? I see before that word it says Gemma was very loud and in the next sentence it says the high pitch of her voice was annoying. Maybe *caterwauling* means 'shrill yelling.'" Which technique for determining word meaning is the teacher modeling?

(A) word sort

(B) context clues

(C) structural analysis

(D) reference materials

7. **Answer the question by choosing the correct response.**

   A teacher has students work in pairs to brainstorm possible topics for an upcoming paper. Which stage of the writing process are the students working on?

   (A) prewriting

   (B) drafting

   (C) revising

   (D) publishing

8. **Answer the question by choosing the correct response.**

   A teacher and student look at several examples of the student's writing collected from the beginning of the school term. They discuss areas in which the student's writing has improved and target areas for further improvement during the rest of the term. Which method is the teacher using to assess the student?

   (A) observation

   (B) retelling rubric

   (C) running record

   (D) portfolio review

9. **Answer by choosing all the correct responses.**

   A teacher assigns fourth-grade students to prepare and present a class presentation about an endangered species. Which of the following speaking and listening skills should the teacher include on the rubric used to grade the presentations?

   Select **all** that apply.

   (A) use appropriate descriptive details

   (B) take turns speaking and listening

   (C) speak clearly at an understandable pace

   (D) listen actively and paraphrase key points

10. **Answer the question by choosing the correct response.**

    A group of fourth-graders meet to discuss a chapter of a book they have been reading. One student leads the group and calls on the other group members, one at a time, to give their opinion about the main character's actions. This structured method of interaction helps group members develop skills in

    (A) paraphrasing each other's speech.

    (B) asking questions to get information.

    (C) reviewing and summarizing key ideas.

    (D) following rules for taking turns speaking.

Answers to practice Reading and Language Arts questions

Use this answer key to score the practice reading and language arts questions in this chapter.

1. **D. consonant digraphs.** This question requires an understanding of the roles of phonics in learning reading fundamentals. *Consonant digraphs* are pairs of consonants that together make a combined sound different from the sound of each letter read separately. Choice (A) is incorrect because *diphthongs* are pairs of vowels that together make a combined sound different from the sound of each letter read separately. Choice (B) is incorrect because not all the example words include vowel blends. Choice (C) is incorrect because *consonant blends* are groups of consonants that appear together but are pronounced more or less individually.

2. **A. Use spaces between words, C. Partially spell consonant blends, and D. Use correct directionality of print.** This question requires an understanding of the roles of print awareness, phonics, and word recognition in learning reading fundamentals. Spaces between words and directionality of print (writing from left to right) are print concepts this student is demonstrating. The student's writing also demonstrates mastery of consonant blends, which are groups of consonants that appear together but are pronounced more or less individually. Choice (B) is incorrect because the student is not using vowels between consonants.

3. **C. a content map.** This question requires an understanding of ways to promote comprehension of a text. A content map is a visual representation of the major events or ideas in a text. Choice (A) is incorrect because a T-chart is more useful for helping students compare and contrast information or ideas. Choice (B) is incorrect because a K-W-L chart is more useful for helping students set a purpose for reading and what they've learned. Choice (D) is incorrect because a Venn diagram also helps students compare and contrast information or ideas.

4. **D. describe character motivations.** This question requires an understanding of ways to promote comprehension of a text. Understanding characters is an important skill for comprehending literature. Choice (A) is incorrect because although the question may seem like a detail, it is actually more closely related to understanding the characters. Choice (B) is incorrect because the teacher's question does not ask students about the events of the fable. Choice (C) is incorrect because although the question may contribute to an understanding of the fable's central lesson, it is more immediately useful in helping students understand the characters.

5. **A. personification.** This question requires an understanding of ways to promote comprehension of figurative language. *Personification* is figurative language that imparts human characteristics, such as speaking, to nonhuman objects or animals. Choice (B) is incorrect because *onomatopoeia* is figurative language that involves using words that sound similar to their meanings. Choices (C) and (D) are incorrect because *similes* and *metaphors* are figurative language used to make comparisons.

6. **B. context clues.** This question requires an understanding of basic components of vocabulary and strategies to determine the meaning of new words. *Context clues* are information from the surrounding words or other material that help students figure out the meaning of a word. Choice (A) is incorrect because a *word sort* is a method of categorizing known or unknown words. Choice (C) is incorrect because *structural analysis* involves looking at prefixes, suffixes, and word bases to determine a word's meaning. Choice (D) is incorrect because the teacher is not modeling using *reference materials,* such as a dictionary.

7. **A. prewriting.** This question requires an understanding of how to help students produce clear and coherent writing using the steps of the writing process. The students are discussing topics before beginning to write, which indicates that they are in the prewriting stage. Choice (B) is incorrect because the draft step involves writing the paper, a step beyond planning. Choice (C) is incorrect because the revision phase involves making changes to a complete or partial draft. Choice (D) is also incorrect because the publishing phase is the final step when students share their finished writing.

8. **D. portfolio review.** This question requires an understanding of how to assess students' writing progress. The teacher and student are reviewing a portfolio, Choice (D), of the student's writing, collected over time. Choice (A) is incorrect because the teacher is not observing the student during the process of writing. Choice (B) is incorrect because retelling is used to evaluate students' listening skills or comprehension. Choice (C) is incorrect because a running record is used to tally students' skills or mistakes as they read or speak aloud.

9. **A. use appropriate descriptive details, and C. speak clearly at an understandable pace.** This question requires an understanding of the skills necessary for speaking, listening, and presenting. Students should include appropriate descriptive details, Choice (A), and speak at an appropriate rate, Choice (C), in their presentations. Choice (B) is incorrect because although students do need to listen while others give their presentations, turn-taking is not a presentation skill that should be graded. Choice (D) is also incorrect because although students do need to listen while others give their presentations, they do not need to paraphrase others' presentations.

10. **D. following rules for taking turns speaking.** This question requires an understanding of the skills necessary for speaking, listening, and presenting. This group's structured discussions scaffold students' ability to take turns speaking and listening, Choice (D). Choice (A) is incorrect because the students were not described as paraphrasing or retelling using their own words from either the book or each other's comments. Choice (B) is incorrect because neither the leader nor the other group members are described as asking any questions. Choice (C) is incorrect because group members are giving their opinions rather than summarizing key ideas.

Mathematics practice questions

These practice questions are similar to the mathematics questions that you'll encounter on the Praxis Elementary Education: CIA test.

1. Mark is trying to multiply 11×14. Which of the following would be the best method for finding the product?
   - **(A)** determining the greatest common factor of the two numbers
   - **(B)** rounding both numbers to the nearest 10 and multiplying the resulting numbers
   - **(C)** adding 11 14 times
   - **(D)** writing one of the factors as the sum of 10 and a number and using the distributive property to multiply by the other factor

2. A teacher gives students a set of square tiles and asks them to make 3 rows of 7 tiles. She then has the students count the number of tiles. Which of the following concepts is the teacher helping the students understand?
   - **(A)** volume
   - **(B)** area
   - **(C)** perimeter
   - **(D)** squaring

3. Fred worked the three following fraction addition problems.

$$\frac{2}{7}+\frac{1}{7}=\frac{3}{14}$$
$$\frac{1}{8}+\frac{3}{8}=\frac{4}{16}=\frac{1}{4}$$
$$\frac{5}{9}+\frac{7}{9}=\frac{12}{18}=\frac{2}{3}$$

The strategy he used suggests that Fred needs instruction in which of the following areas?

(A) making common denominators the denominators of sums until sums are simplified

(B) simplifying fractions

(C) adding numerators

(D) adding denominators

4. A teacher plans to give her students an introductory lesson on using long division. Which of the following do the students need to have learned before the lesson?

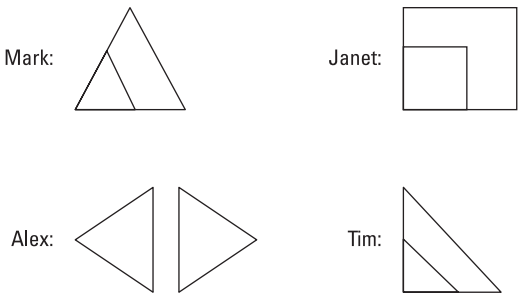
(A) prime factorization

(B) properties of equality

(C) single-digit multiplication tables

(D) multiplying fractions

5. A teacher assessed the work of four students she asked to use two figures each to demonstrate a certain geometric concept. Each of the following sets of figures represents the work of the student whose name corresponds to the set. Three of the students correctly demonstrated the geometric concept, and one student did not. The student with the incorrect answer demonstrated which of the following?



(A) reflection instead of dilation

(B) translation instead of reflection

(C) dilation instead of reflection

(D) translation instead of rotation

6. A student wrote the following equations in a class assignment. Which of the following does the student need to be retaught?

$3(5 + 2) = 15 + 2 = 17$

$7(2 + 6) = 14 + 6 = 20$

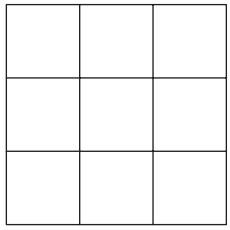
(A) the distributive property

(B) factoring

(C) exponents

(D) unit rates

7. The following figure was created by tiles that are 1 square unit each. Every student in a math class wrote an expression to represent the area of the figure. Which of the following student responses shows an incorrect understanding of area?



Select **all** that apply.

(A) $1 \cdot 9$

(B) $3 \cdot 3$

(C) $3 + 3 + 3 + 3$

(D) $12 - 3$

8. A teacher plans to introduce her class to the concept of factoring. Which of the following concepts do the students need to have been taught first?

(A) cubing

(B) common denominators

(C) multiplication

(D) associative property of addition

9. A teacher gives his students a list of all whole numbers from 1 to 50. He asks the students to circle the number 2 and then cross out all of the other even numbers. He then asks them to circle 3 and cross out all of its multiples in the list, and then to do the same thing for 5. The major concept the teacher is most likely teaching his students is which of the following?

(A) prime numbers

(B) even numbers

(C) factoring

(D) least common multiple

10. The following word problem is most likely designed to teach which of the following concepts?

A pie is divided into seven pieces of equal size. Johnny took one piece, and then he went back and took another piece. Then, he took his last piece. What portion of the pie did Johnny take?

(A) 1 – 4/7 = 3/7

(B) Adding a fraction to itself is the same as subtracting its opposite.

(C) Some fractions can be expressed as whole numbers.

(D) 3/7 = 3 of 1/7

Answers to Mathematics practice questions

Use this answer key to score the practice mathematics questions in this chapter.

1. **D. writing one of the factors as the sum of 10 and a number and using the distributive property to multiply by the other factor.** Either factor can be written as the sum of 10 and another number. Multiplying this form by the other factor and using the distributive property involve multiplying the factor by 10, which simply involves putting a zero after the factor and multiplying the factor by the other number in the derived sum. That other number is a single-digit number, which is easier to multiply by than a two-digit number. The sum of the two resulting products is the correct answer to the student's problem.

$$\begin{aligned} 11 \times 14 &= 11(10+4) \\ &= 11(10)+11(4) \\ &= 110+44 \\ &= 154 \end{aligned}$$

Choices (A) and (B) would not result in the correct product, though Choice (B) would be a good method for getting a broad estimate. Choice (C) would be much more tedious and time-consuming than Choice (D).

2. **B. area.** Each tile represents a square unit. Arranging the tiles with a certain number in each row for a number of rows demonstrates that the number of tiles in each row times the number of rows equals the total number of tiles, which is the number of square units in the area of the arrangement. Choice (A) is incorrect because the arrangement represents two dimensions and volume is three-dimensional, Choice (C) is incorrect because the number of tiles in the arrangement is not the same as the distance around it, and Choice (D) is incorrect because squaring is multiplying a number by itself.

3. **A. making common denominators the denominators of sums until sums are simplified.** Fred made the mistake of adding denominators instead of making the common denominator the denominator of the sum, until sum simplification, in each problem. Choice (B) is incorrect because Fred showed that he could simplify fractions. Choice (C) is incorrect because Fred correctly added numerators. Choice (D) is incorrect because adding fractions does not involve adding denominators.

4. **C. single-digit multiplication tables.** Introductory long division involves multiplying single-digit numbers, and students need to know all of the two single-digit products to correctly engage in the long division process, even at the initial level. Choices (A), (B), and (D) are not involved in the long division process.

5. **A. reflection instead of dilation.** *Reflection* involves a figure's transformation to a position in which it forms the reverse image of its original position in relation to a line. The line does not have to be illustrated. *Dilation* involves a figure's transformation to a similar figure of a different size. Alex demonstrated reflection, while the other three students demonstrated dilation.

6. **A. the distributive property.** Correct application of the distributive property gives the correct values in both cases. Both equations show that the student understands part of the distributive property, but they show that he thinks the outside number is supposed to be multiplied by only the first inside number and that the second inside number is supposed to be added instead of the product of it and the outside number. Choice (B) is incorrect because although the mere multiplication of quantities involves factors, it is not the process of factoring. Choice (C) is incorrect because exponents are not used at all in the equations. Choice (D) is incorrect because neither units nor rates are presented by the equations.

7. **C. 3 + 3 + 3 + 3 and D. 12 − 3.** Choice (C) shows an incorrect understanding of area because the area of the figure formed by the tiles is 9, not 12. It is 3 by 3, not 3 by 4. Choice (D) is incorrect, although its value is the area of the figure. That is because 12 is not relevant to the calculation of the area of the figure. Choice (A) is a true representation of the area of the figure, in terms of both value and principle, so Choice (A) is not a correct answer to the question. Choice (B) is another correct representation of the basis for the area of the figure because the figure is 9 tiles that are 1 square unit each.

8. **C. multiplication.** The concept of factoring is about what whole numbers multiply by each other to get other whole numbers. It is a multiplication principle. Without an understanding of multiplication, factoring cannot be understood. Choice (A) can be part of factoring but does not have to be. Factoring can be comprehended without knowledge of cubing. Choice (B) is a concept that can entail factoring, but understanding factoring does not depend on knowledge of common denominators. Choice (D) is incorrect because the associative property of addition is about adding numbers in different grouping arrangements, and that concept is not an automatic component of factoring.

9. **A. prime numbers.** The two numbers that are circled are both prime. Beyond that, numbers the process is designed to eliminate are composite numbers. Multiples of whole numbers other than 1 cannot possibly be prime, by definition. Choice (B) is incorrect because the exercise creates the elimination of both even and odd numbers, and 2 is an even number that is circled. Choice (C) is incorrect because, although factors are multiplied, factoring does not take place. Choice (D) is not correct because the process does not involve identification of common multiples at all.

10. **D. 3/7 = 3 of 1/7.** The story is about 1/7 being taken 3 times, resulting in 3/7 of the pie being taken. The problem illustrates that those expressions are the same. Choice (A) is a true equation that is shown by the story in the problem, but it is not the focus. The remaining 4/7 of the pie is not mentioned in the problem or even referred to indirectly. Choices (B) and (C) are not at all suggested by the story.

Science practice questions

These practice questions are similar to the science questions that you'll encounter on the Praxis Elementary Education: CIA test.

1. For a science fair project that explores the question, "Which type of fertilizer works best to grow plants?", the independent variable would be:
   - **(A)** growth of the plant measured by height.
   - **(B)** using different amounts of water.
   - **(C)** growth of the plant measured by the number of leaves.
   - **(D)** using different types of fertilizer.

2. When teaching a unit on habitats, the teacher wants to show why certain animals are better suited for a particular climate or type of vegetation. To be proficient in this unit, the student would need to have a grasp of all of the following EXCEPT which of the following?
   - **(A)** knows about the diversity and unity that characterizes life
   - **(B)** understands how species depend on one another and on the environment for survival
   - **(C)** understands the stages of development of a butterfly
   - **(D)** understands the characteristics of ecosystems on Earth's surface

3. In studying the structure and function of living systems, which of the following shows a higher level of understanding on the part of the student?
   - **(A)** The student describes interdependence of one system on another.
   - **(B)** The student identifies and describes each body system.
   - **(C)** The student identifies each system and labels parts.
   - **(D)** The student is able to sketch blood flow into and out of the heart from memory.

4. Which of the following does NOT show differentiation of instruction in the science classroom?
   - **(A)** allowing students to work in groups to answer sample questions
   - **(B)** incorporating labs to make sure tactile learners connect concepts
   - **(C)** using the approved textbook and assigning homework from it each night
   - **(D)** reteaching/remediation for those students who did not pass the last assessment

5. Which of the following is the order of the process of scientific inquiry?
   - **(A)** design, test, research, communicate
   - **(B)** communicate, design, research, test
   - **(C)** research, design, test, communicate
   - **(D)** design, research, communicate, test

Answers to Science practice questions

Here are the answers to the science practice questions in the preceding section.

1. **D. using different types of fertilizer.** The independent variable is the variable that the experimenter changes to test the dependent variable. The effect on the dependent variable is measured and recorded. In this case, what the experimenter is changing is the type of fertilizer, Choice (D). Choice (A) is wrong because it is actually the dependent variable, the entity that would be affected by the type of fertilizer. Choice (B) is wrong because the effect water has on growth is not being tested. Water amount would actually be a constant in the particular experiment. Choice (C) is wrong because the number of leaves is not a measure of its growth. Although the health and number of the leaves can be an indication of the strength of the fertilizer, it is not the tested variable in this case.

2. **C. understands the stages of development of a butterfly.** This is the correct answer because it is the only one that contains information that the student would NOT need in discussing habitats. Choices (A), (B), and (D) are all necessary because the student must understand the characteristics of life, how species depend on the environment for survival, and the main characteristics of each ecosystem. Therefore, they are incorrect for this question.

3. **A. The student describes interdependence of one system on another.** This concept requires the student to combine several objectives to grasp its importance and thus has the highest understanding of the options given. It involves the understanding of the structure and function of each system and then how they interrelate to maintain a healthy organism. Choice (B) requires less understanding than (A); it involves the structure and function of body systems. Choice (C) only involves identification of the systems and their parts. Choice (D) is wrong because it asks about a specific organ, the heart, and thus involves very limited understanding.

4. **C. using the approved textbook and assigning homework from it each night.** Choice (C) is correct because it is the only one that does NOT show differentiation. *Differentiation* is a model of teaching that incorporates more than one type of learning strategy during instruction. This model takes into consideration varied races, cultures, genders, and learning styles. Choice (A) is not correct because working in groups is a way students learn in a differentiated setting. Choice (B) is not correct because making sure tactile/kinesthetic learners get hands-on experience is important in this classroom. Choice (D) is not correct because it makes sure that the students who did not adequately grasp the material are not left behind.

5. **C. research, design, test, communicate.** Choice (C) is correct because in scientific inquiry it is necessary to research the topic you want to explore first. You must then decide which aspect of that topic you want to test. After proposing a hypothesis or educated guess about what you expect the outcome of your experiment to be, you then test it. Finally, the results of that test are communicated with peers in the scientific community. Choices (A), (B), and (D) have these headings in an incorrect order.

Social Studies practice questions

These practice questions are similar to the social studies questions that you'll encounter on the Praxis Elementary Education: CIA test.

1. A third-grade class is exploring a unit on the Land and People Before Columbus. Which of the following would be most effective in understanding gender roles and family life among tribes?

   (A) working in groups to build a teepee and clay models of each family member

   (B) using concept maps to outline daily activities and chores for each member of the family

   (C) reading a book on the interactions between the Cherokee Indians and early European explorers

   (D) watching *Pocahontas* and writing a one-page essay on her role in the tribe

2. A second-grade social studies teacher has the objective of examining civic responsibility in the community. Which of the following will best help her get that point across to the students?

   (A) explaining the various cultural heritages within their community

   (B) using a map to locate and label their city and major landmarks

   (C) explaining why schools have rules and the importance of each leader in their school

   (D) identifying and participating in a local civic activity, such as recycling or a walkathon

3. A fifth-grade teacher is presenting a unit on the five themes of geography. The class is exploring the concept of ecology. Which of the following themes would that concept fall under?

   (A) location

   (B) human interaction with the environment

   (C) movement and connections

   (D) regions, processes, and patterns

4. A social studies class is reviewing the Civil War and its effect on the South. The teacher has given them a project where they can only use primary sources to find information. Which of the following could they use? Check **all** that apply.

   (A) diaries

   (B) encyclopedias

   (C) letters

   (D) biographies

5. A sixth-grade teacher wants to make sure his students are able to integrate knowledge and ideas in their understanding of an article on how a bill becomes a law. Which of the following would show him that the students are able to do that?

   (A) distinguishing among fact, opinion, and reasoned judgment in the article

   (B) describing how a passage on the topic presents its information (sequentially, comparatively, and so forth)

   (C) determining the meaning of words and phrases in the article

   (D) identifying the steps of how a bill becomes a law

Answers to Social Studies practice questions

Use this answer key to score the practice social studies questions in this chapter.

1. **B. using concept maps to outline daily activities and chores for each member of the family.** Using concept maps to divide the responsibilities of men, women, and children will help students understand the expectations of the tribes. Choice (A) is not correct because although hands-on, group projects are a great instructional tool, in this case, such a project wouldn't bring to life the significance of the roles the family members play. Choice (C) is not correct because interactions between Indians and explorers may not provide detail regarding gender roles and family life. Choice (D) is not correct because although the movie can be shown at the end of the unit for pleasure or reinforcement, it can't be depended upon to give an accurate depiction of the era.

2. **D. identifying and participating in a local civic activity, such as recycling or a walkathon.** Participating in a local community activity helps the students see the importance of each citizen and his responsibility to make that community thrive. Choice (A) is not correct because being able to explore the various cultural heritages does not give the students a sense of their responsibility. Choice (B), locating their city on a map, while useful, wouldn't give the students a sense of community. Choice (C) is not correct because it would involve a different unit of study, whereby students would understand how each student, faculty, or staff member has a vital role in the school.

3. **B. human interaction with the environment.** The theme of human interaction with the environment includes how human beings make use of, change, and are limited by the environment, including ecology. Choice (A) is not correct because it involves the absolute versus relative location. Choice (C) is not correct because it includes how transportation and communication connect people all over the world and how these connections have grown and changed. Choice (D) is not correct because it includes the variations in the economy, climate, politics, and culture within specific regions, including sociology, politics, and economics.

4. **A. diaries and C. letters.** *Primary sources* are those written in the historical period being studied or by the historical figure being studied. Diaries and letters would have been written during that time period. Choice (B) is not correct because it would have been written about the period, as a secondary source. Choice (D) is not correct because it would have been written by someone else, making it a secondary source also.

5. **A. distinguishing among fact, opinion, and reasoned judgment in the article.** Distinguishing among fact, opinion, and reasoned judgment allows for connecting several ideas. The students would have to decipher through context clues and identify what information sounded true based on factual evidence versus that which is merely a statement of opinion. Choice (B) is not correct because how a text is organized is an understanding of structure and does not involve integration. Choice (C) is not correct because determining the meaning of words and phrases only involves vocabulary in context and not an integration of ideas. Choice (D) is not correct because identification of steps only requires a basic level of skill and is not, generally speaking, a multilevel task.

Art, Music, and Physical Education practice questions

These practice questions are similar to the art, music, and physical education questions that you'll encounter on the Praxis Elementary Education: CIA test.

Art

1. For a class art project, David created an oil painting that involves heavy use of juxtapositions and bizarre, dream-like imagery. In which of the following genres of art can David's painting best be classified?

   (A) abstract expressionism

   (B) pointillism

   (C) surrealism

   (D) realism

2. A teacher wants to increase her students' understanding of the impressionist art movement of the 1800s. Which of the following instructions would be most effective toward achieving that goal?

   (A) Sprinkle paint drops on a spinning board.

   (B) Paint living room scenery with as much detail as possible.

   (C) Use blocks of varying sizes to create abstract designs.

   (D) Open your eyes and immediately shut them as you face an object and its surroundings, and then paint the visual image you had of the scenery.

3. During which era of art history did Michelangelo create his famous works?

   (A) Italian Renaissance

   (B) neoclassical

   (C) romantic

   (D) modern

Music

1. Melody bells and simple flutes fall into the category of

   (A) orchestral instruments.

   (B) rhythmic instruments.

   (C) melodic instruments.

   (D) harmonic instruments.

2. The spirit of humanism and rationalism pervaded polyphonic music and music began to be seen as a mark of culture during which era?

   (A) Renaissance

   (B) early Christian

   (C) later Middle Ages

   (D) 17th and early 18th centuries

3. Which activities would show how music would be beneficial in exploring other cultures?

   Select **all** that apply.

   (A) having students recite the words to "America the Beautiful"

   (B) having students listen to music from China as they study the culture of the country

   (C) having students view live or videotaped performances of the music and dance of various cultures using traditional costumes and instruments

   (D) having students listen to pop-culture music during a social studies lesson

Physical education

1. Body management in the area of physical education includes all of the following EXCEPT
   (A) body parts.
   (B) sportsmanship.
   (C) concept of directions.
   (D) extensions in space.

2. In which of the following physical education curricula do the students learn about outdoor recreation safety and development of life-long interests?
   (A) movement education
   (B) social-developmental model
   (C) sports-education model
   (D) adventure-education approach

3. Which of the following activities would be most developmentally appropriate for a first-grade student?
   (A) dodgeball
   (B) basketball
   (C) soccer
   (D) tennis

Answers to Art, Music, and Physical Education practice questions

Use this answer key to score the art, music, and physical education questions in this chapter.

Art

1. **C. surrealism.** Surrealist art involves heavy use of *juxtapositions*—concepts that have very little to do with each other and are typically not found together in reality—and imagery that is bizarre and dream-like. Choice (A) does not typically involve a strong degree of realistic imagery to be dream-like or involve juxtapositions. Choice (B) is defined by the method involved in creating the art and not what it depicts. Although pointillist art could possibly be surreal, it generally is not, and it is not characterized by surrealist qualities. Choice (D) does not fit the description because realism is about depictions of actual reality and not concepts of the unreal.

2. **D. Open your eyes and immediately shut them as you face an object and its surroundings, and then paint the visual image you had of the scenery.** This instruction would lead students to create art that lacks detail but still realistically focuses on colors and outlines of objects. Those are the main defining characteristics of impressionism. Choices (A) and (C) would lack the level of realistic depiction necessary for impressionist art, and Choice (B) would tend to result in too much detail.

3. **A. Italian Renaissance.** Michelangelo was the premier painter and sculptor of the Italian Renaissance. He did not create art during any of the other periods that are listed as choices.

Music

1. **C. Melodic instruments.** These are instruments that bring melody to a selection. The definitions for the others are as follows: *Orchestral instruments,* Choice (A), are those found in an orchestra falling under the categories of brass, woodwinds, percussion, and so on. *Rhythmic instruments,* Choice (B), in an elementary classroom are triangles, tambourines, blocks, and sticks. *Harmonic instruments,* Choice (D), are chording instruments like the autoharp.

2. **A. Renaissance.** Music was a part of the evolution taking place in society at that time, so it involved the same theme of humanism and rational thought characteristic of that era. Choice (B) is incorrect because plain song and unaccompanied religious chant were important during the early Christian era. Choice (C) is incorrect because religious and secular polyphonic music were composed throughout the later Middle Ages. Choice (D) is incorrect because Baroque music categorized the 17th and early 18th centuries.

3. **B. having students listen to music from China as they study the culture of the country, and C. having students view live or videotaped performances of the music and dance of various cultures using traditional costumes and instruments.** Exposing the students to music from other cultures either through listening or watching enhances their learning experience. Choice (A) is incorrect because reciting lyrics to an American song does not assist students in learning about other cultures. Choice (D) is incorrect because it is not adequate in building on students' cultural experience.

Physical education

1. **B. sportsmanship.** Body management focuses on the ability of an individual to control his or her physical self, personal movements, spatial conditions, and body-space relationships. These are included in Choices (A), (C), and (D).

2. **D. adventure-education approach.** In adventure-education, students explore a wide variety of outdoor recreational pursuits and learn about the career opportunities available in this field. Choice (A) is incorrect because in movement education, the focus is literally on the basic aspects of human body movement and how it can be incorporated into many aspects of the educational process. Choice (B) is incorrect because the social-developmental model guides students through personal growth and social skills. Choice (C) is incorrect because the sports-education model helps students build knowledge about sports and seasons.

3. **A. dodgeball.** Developmentally appropriate activities for students in grades 1 to 3 involve them throwing a ball because they're better at throwing than catching. Dodgeball is the best choice over basketball, Choice (B); soccer, Choice (C); or tennis, Choice (D); which require more skill and involve more rules.

Analyzing Your Practice Question Results

If you just finished taking the practice test and reviewing your results, you have come to the right place. Your results are a good indicator of what you need to study the most. If you missed some questions, let that become a strength. Incorrect answers tell you what you need to do now to get prepared for the big test. In fact, future practice questions will give indications of where you are at any stage of the preparation process. For now, you are still in the early part of the game, and this is just the first round.

Identifying what you missed

The areas where you struggled the most are most likely the areas where you need to study the most. To get a really precise idea of where you need to put the most focus, you can make an outline based on your results. Write brief descriptions of what you missed and look for patterns. Look for categories within categories, and then look for specific problem areas within those categories. The table of contents for this book can help you identify the specific names of the categories and the divisions within them. You can create a category called "Other" for areas that do not seem to fit into any of the other categories.

You can also look into the subject-area chapters and find category patterns. For example, Chapter 11 is about mathematics curriculum, instruction, and assessment. The instruction part of the chapter gives details on many approaches to teaching elementary-level mathematics. The instruction principles and methods discussed in the chapter are divided into the categories of numbers and operations, algebra, geometry and measurement, and statistics and probability. Each of those categories has smaller categories within it. For example, the geometry and measurement section has a part about having students create diagrams to understand definitions, similarities, and differences among geometric shapes. Also within the category of geometric shapes is the smaller category of the major types of polygons that include parallelograms and an explanation of how one type of parallelogram is a rectangle and one type of rectangle is a square. The system is complex, and you can look through it to determine very specific areas to which you need to give extra focus.

After you identify the areas you need to focus on, look at which of your answers were incorrect. You may not have had any, but that is rare at this stage. If you did have wrong answers, contrast them with the right answers and work to understand why you did not get the correct answers.

Analyzing how to get the right answers can also help you. It can allow you to see areas where you can become strong and increase your ability to understand key components of your areas of weakness. It can also help you identify wrong answer choices so you can mark them out and have a greater chance of getting the right answers.

Determining the why of what you missed

We just mentioned the need to understand why you missed certain questions on your practice test. Now, we are going to further explain the importance of this issue.

When you identify your wrong answer choices, you can ask yourself important questions like the following ones:

- Did I make simple errors?
- Do I lack in-depth knowledge of a particular subject?
- Was my answer incorrect because I lacked focus while answering it?
- Did I confuse my answer with something else?
- Is there a strategy that I could have used that would have made the difference?

Think about those questions and ones like them and make a list of your answers. Keep those answers in mind as you study, in order to gain the knowledge, skills, and test-taking strategies necessary to succeed on the real test.

Something else you can do is look for patterns in the reasons for your wrong answers. If you can find patterns, you can be more mindful of your mistakes. For math questions in particular, it is very often helpful to look at any work you may have done in your effort to get right answers. On the real test, you have to apply math knowledge to teaching strategies, and knowledge of math content is the foundation of the answers to the questions. Because of that, you are likely to work out some problems while taking practice tests and are very likely to have done so when you answered practice questions earlier. If you did, your work can tell you further details about where you need to improve. As you improve your math knowledge and skills, your ability to do that will grow.

With the other subject-area questions, perhaps mostly with those in the social studies category, people often have easily correctable tendencies that can lead to wrong answers. For example, you may choose an answer simply because it has big words in it, which gives you the impression that the answer is a good one and the right one. Keep in mind that big words can be wrong words. You may be drawn to answer choices that say interesting things or sound optimistic. The bias involved in such circumstances can give false attractiveness to answers. It is also possible to give up on a question too soon without realizing it because a question seems especially difficult. That is most likely when you remember the advice that you should pick Choice (C) when in doubt. That view can somewhat draw you to select Choice (C) when you have not yet fully evaluated and eliminated any of the other answer choices. Giving up too soon can lead to preventable incorrectness.

Test-prep teachers and tutors have an old saying: "I can tell you how to get a question right, but only you can tell yourself why you got one wrong." Well, okay, maybe it's not an old saying. It's from another *For Dummies* Praxis prep book we wrote. Technically, it will eventually be an old saying. For the remainder of this book, your goal is to build content and develop strategies that will improve your performance on the Praxis Elementary Education: CIA exam.