RELAY/GSE
GRADUATE SCHOOL of EDUCATION

# My Science 7-12 (236) Study Plan

**Directions:**

**Step 1: Know Your Exam**
Every certification exam has an exam framework, which outlines the format and content you could be assessed on when taking your exam. Before taking a practice test or opening a study guide, you want to ensure that you have a clear understanding of what to expect on your exam. Read the exam framework (page 4) from Pearson for the TExES Science 7-12 (236) Exam. After you've read through the framework, complete the tables below.

| Exam Overview | | |
|---|---|---|
| **Question** | | **Response** |
| 1 | What are the time limits on the exam? | |
| 2 | How many questions are on the exam? | |
| 3 | What is the format of the questions (ex: 100% are selected response)? | |

**Step 2: Self-Assess**
Read the competencies and descriptive statements you'll be assessed on for each test section. While you are reading the competencies and descriptive statements, highlight or make note of any concepts or vocabulary that you know you will need to review.

Then, take a diagnostic for each section, and use that to help you self-assess in each category. If you have recently taken the official test, you can use your score report instead of a new diagnostic. Using your notes from the exam framework and practice exam results, complete the table below to determine your anticipated areas of strength and growth. When you are determining the priority for studying, consider how many questions are expected on the official test, how you did on the diagnostic, and what you know you need to review from the test competencies. You can use the information in this table to help you prioritize what to study.

| Exam Competency Prioritization | | | | |
|---|---|---|---|---|
| **Science**<br>**Click here to read the competencies for this test section (starting on page 8).**<br>● The competency statements broadly define what an entry-level educator in this field in Texas public schools should know and be able to do.<br>● The descriptive statements describe in greater detail the knowledge and skills eligible for testing. | | | | |
| **Recommended Diagnostic: 240Tutoring TExES: Science 7-12 (236)** | | | | |
| **Competency** | | **Number of Questions** | **My Percentage Correct on a Practice Test** | **Priority for Studying (High, Medium, Low)** |
| Domain I | Competency 001: The teacher understands how to select and manage learning activities to ensure the safety of all students and the correct use and care of organisms, natural resources, materials, equipment and technologies. | ≈5 | | |
| | Competency 002: The teacher understands the nature of science, the process of scientific inquiry and the unifying concepts that are common to all sciences. | ≈4 | | |
| | Competency 003: The teacher understands the history of science, how science impacts the daily lives of students and how science interacts with and influences personal and societal decisions. | ≈3 | | |

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| Domain II | Competency 004: The teacher understands the description of motion in one and two dimensions. | ≈3 | | |
| | Competency 005: The teacher understands the laws of motion. | ≈4 | | |
| | Competency 006: The teacher understands the concepts of gravitational and electromagnetic forces in nature. | ≈4 | | |
| | Competency 007: The teacher understands applications of electricity and magnetism. | ≈2 | | |
| | Competency 008: The teacher understands the conservation of energy and momentum. | ≈3 | | |
| | Competency 009: The teacher understands the laws of thermodynamics. | ≈3 | | |
| | Competency 010: The teacher understands the characteristics and behavior of waves. | ≈4 | | |
| | Competency 011: The teacher understands the fundamental concepts of quantum physics. | ≈1 | | |
| Domain III | Competency 012: The teacher understands the characteristics of matter and atomic structure. | ≈3 | | |
| | Competency 013: The teacher understands the properties of gases. | ≈1 | | |
| | Competency 014: The teacher understands the properties and characteristics of ionic and covalent bonds. | ≈3 | | |
| | Competency 015: The teacher understands and interprets chemical equations and chemical reactions. | ≈5 | | |
| | Competency 016: The teacher understands types and properties of solutions | ≈4 | | |

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| | Competency 017: The teacher understands energy transformations that occur in physical and chemical processes. | ≈1 | | |
| | Competency 018: The teacher understands nuclear fission, nuclear fusion and nuclear reactions. | ≈1 | | |
| | Competency 019: The teacher understands oxidation and reduction reactions. | ≈2 | | |
| | Competency 020: The teacher understands acids, bases and their reactions. | ≈4 | | |
| Domain IV | Competency 021: The teacher understands the structure and function of biomolecules. | ≈3 | | |
| | Competency 022: The teacher understands that cells are the basic structure of living things and have specialized parts that perform specific functions. | ≈3 | | |
| | Competency 023: The teacher understands how cells carry out life processes. | ≈3 | | |
| | Competency 024: The teacher understands how specialized cells, tissues, organs, organ systems and organisms grow and develop. | ≈1 | | |
| Domain V | Competency 025: The teacher understands the structures and functions of nucleic acids in the mechanisms of genetics. | ≈3 | | |
| | Competency 026: The teacher understands the continuity and variations of traits from one generation to the next. | ≈4 | | |
| | Competency 027: The teacher understands the theory of biological evolution. | ≈2 | | |
| | Competency 028: The teacher understands evidence for | ≈1 | | |

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| | evolutionary change during Earth's history. | | | |
| Domain VI | Competency 029: The teacher understands similarities and differences between living organisms and how taxonomic systems are used to organize and interpret the diversity of life. | ≈3 | | |
| | Competency 030: The teacher understands that, at all levels of nature, living systems are found within other living systems, each with its own boundaries and limits. | ≈3 | | |
| | Competency 031: The teacher understands the processes by which organisms maintain homeostasis | ≈1 | | |
| | Competency 032: The teacher understands the relationship between biology and behavior. | ≈2 | | |
| Domain VII | Competency 033: The teacher understands the relationships between abiotic and biotic factors of terrestrial and aquatic ecosystems, habitats and biomes, including the flow of matter and energy. | ≈1 | | |
| | Competency 034: The teacher understands the interdependence and interactions of living things in terrestrial and aquatic ecosystems. | ≈4 | | |
| | Competency 035: The teacher understands the relationship between carrying capacity and changes in populations and ecosystems. | ≈2 | | |
| Domain VIII | Competency 036: The teacher understands structure and function of the geosphere. | ≈3 | | |
| | Competency 037: The teacher understands processes of plate tectonics, weathering, erosion and deposition that change Earth's surface. | ≈1 | | |

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| | Competency 038: The teacher understands the formation and history of Earth. | ≈2 | | |
| | Competency 039: The teacher understands structure and function of the hydrosphere. | ≈1 | | |
| | Competency 040: The teacher understands structure and function of the atmosphere. | ≈2 | | |
| | Competency 041: The teacher understands the effects of natural events and human activity on Earth systems. | ≈2 | | |
| Domain IX | Competency 042: The teacher understands the implications of Earth's placement and orientation in the solar system. | ≈3 | | |
| | Competency 043: The teacher understands the role of the Sun in the solar system and the characteristics of planets and other objects that orbit the Sun. | ≈1 | | |
| | Competency 044: The teacher understands composition, history and properties of the universe. | ≈2 | | |
| | Competency 045: The teacher understands the history and methods of astronomy. | ≈1 | | |
| Domain X | Competency 046: The teacher understands research-based theoretical and practical knowledge about teaching science, how students learn science and the role of scientific inquiry in science instruction. | ≈3 | | |
| | Competency 047: The teacher knows how to monitor and assess science learning in laboratory, field and classroom settings. | ≈3 | | |

**Step 3: Identify Resources**

You have read the exam framework and identified concepts you know you need to review. You've taken a diagnostic and identified priorities for your study time. Now, take some time (15-30 minutes) to explore *additional* resources beyond 240Tutoring that you can reference to help you study. We've provided a few below to help you get started!

| Resource | Content | Cost |
|---|---|---|
| cK-12 Open Courseware | This site houses searchable textbooks with content chunked out, linked to video, and in some cases, with practice questions. **These resources are a good fit for anyone who needs to learn the content that is tested, not necessarily how to teach the content to 4-8 students.** | Free |
| TExES Core Subjects 4-8 Additional Test Practice | This resource is ideal for test takers seeking additional testing practice to improve their test taking skills (deductive reasoning, timing, test anxiety). Most people benefit from this resource the most after reviewing content by watching videos, taking notes, reading, etc.<br><br>The science section of this document is appropriate for the math 4-8 test, though it does not extend into some high school science concepts that are tested on the TExES. | Free |
| 240Tutoring | All content areas. Most people benefit the most from using additional resources to learn unfamiliar content while using the 240Tutoring quizzes and practices tests to check understanding and gain testing permission. | $40 per month standard rate.<br>$20 per month student-discounted rate offered through Relay to enrolled students |
| Mometrix e-Library | All content areas (see Teaching Category) | Free to enrolled students |
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**Step 4: Create Your Plan and Study!**
Create and follow a scheduled plan that provides you with regular, protected study time. Use your prioritization of competencies to help you plan. To see a sample plan, click here. It may be useful to start from the sample plan and make adjustments based on your areas of strength and areas for growth.

**General Study Plan:**
**Resources to Use:**
**Number of weeks in my study plan:**
**Total number of hours per week:**
**Times that I will study and Accountability:**

| Week | Mathematics |
|---|---|
| 1 | |
| 2 | |

**Step 5: Take a practice test and submit passing scores to *My Checklist* (to be completed during enrollment at Relay)**

Once you've completed your study plan, take a practice test to gain testing permission. You must be an enrolled student to gain testing permission. All practice tests should be taken under conditions that are as close to real testing conditions as possible. This includes:

1. Completing the test in one-sitting in a quiet environment, free of distractions
2. Adhering to the same time limits as the official test
3. Using only allowable resources (e.g. blank paper and pencil, calculator for some tests, etc.)

For more information on options for practice tests and what a passing score is for each option, please read the Relay Texas Guide to Testing Permissions.