| **Required Course Numbers** | | | | | | | | | | | | | | | |
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| **Test Content Categories** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **I. English Language Arts (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| The English Language Arts section of the Fundamental Subjects: Content Knowledge test is designed to assess basic understanding in the field of English Language Arts. The questions allow test takers to demonstrate their knowledge and understanding of a variety of texts, including fiction, poetry, speeches, essays, and other nonfiction. Some questions will assess test takers’ basic understanding of literary passages and the effects created by literary devices in those passages. Other questions will assess test takers’ basic reading comprehension skills and knowledge of key elements in writing and speaking. While test takers may encounter basic terms such as “theme” or “character,” the English Language Arts section will not assess knowledge of more specialized vocabulary terms such as “metaphor” or “personification.” |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Reading Literature** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Literal and basic nonliteral meanings of literary selections |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Major themes and purposes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Relationships among particular elements in a selection and relationships between particular elements and the selection as a whole |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Historical, cultural, and cross-cultural contexts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Comparisons between literary texts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Literary Methods and Effects; Meanings and effects created by specific literary elements, including** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Point of view |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Character |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Setting, tone, and mood |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Imagery and figurative language (e.g., metaphor, simile, personification\*) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \*Technical terms (e.g., metaphor, simile, personification) that appear in questions in the test will be accompanied by definitions. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Reading and Communication Skills** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Identification of the main idea and supporting ideas in a text |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Summaries and/or paraphrases of text |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. How language is used and the meanings of words as they are used in context |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. How a selection is organized |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Fact versus opinion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Inferences and conclusions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Purposes for writing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. How language is adjusted to communicate with different audiences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Decisions about the writing process, including identifying appropriate revision strategies for a given text |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. How language is used and the meanings of words as they are used in context |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. How a selection is organized |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Fact versus opinion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Inferences and conclusions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Purposes for writing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. How language is adjusted to communicate with different audiences |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Decisions about the writing process, including identifying appropriate revision strategies for a given text |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| II. **Mathematics (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Since the focus of the Mathematics section of the Fundamental Subjects examination is on testing the mathematical competencies needed in teaching and everyday life, each question is presented in one of the following meaningful real-world contexts: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| * School/classroom or work settings, such as calculating grades, interpreting a class or office survey, budgeting for a field trip or project |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| * Personal settings, such as balancing a checkbook, determining the amount or cost of floor covering for a room, the cost of purchases with taxes and/or shipping costs, and appropriate gratuities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| * Interdisciplinary settings, such as interpreting census and/or meteorological data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| The test questions do not require knowledge of advanced-level mathematics vocabulary. An on-screen scientific calculator is provided for test takers for this test. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| The National Council of Teachers of Mathematics’ Principles and Standards for School Mathematics were referred to when developing this section, and the following are covered: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A. **Number Sense and Basic Algebra** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Compute using rational numbers |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Use estimating skills to solve a problem |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Use percents to solve a problem |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Set up ratios and simplify to solve a problem |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Set up and solve proportions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Solve a word problem |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Express a word problem in algebraic form |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Represent and use numbers in equivalent forms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Apply place-value concepts and numeration to ordering and grouping |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B. **Geometry and Measurement** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Convert, select, and use measurements within the same system |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Use scale measurements to interpret maps, drawings, or models |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Use concepts of area, perimeter, circumference, and volume to solve a problem |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Solve a problem involving rates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C. **Data Analysis and Probability** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Interpret data based on charts, graphs, tables, and spreadsheets |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Find trends and patterns and make inferences using graphs or data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Determine mean, median, mode, and range using sets of data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Compare, calculate, and use probability in a variety of problems |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| III. **Citizenship and Social Science (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| The questions in this section of the test will assess test takers’ knowledge, understanding, and ability to use the major concepts and modes of inquiry from the social sciences, with an emphasis on the ability to make connections and comparisons among major historical events and ideas, especially those that have connections to contemporary events and problems. Test questions from the following four thematic areas also address the test takers’ ability to make informed decisions as citizens of a culturally diverse democratic society and interdependent world. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A. **Historical Continuity and Change** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Demonstrate the ability to use chronological thinking skills and to use and analyze historical data (e.g., timelines, maps, graphs, and tables) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Distinguish between fact and opinion with respect to primary and other historical documents (e.g., U.S. Declaration of Independence, U.S. Constitution, essays, speeches) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Demonstrate understanding of multiple points of view with respect to primary and other historical documents (e.g., essays, famous speeches, interview transcripts, personal narratives) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Demonstrate understanding of the significance of historical artifacts, oral traditions, and historical places (e.g., religious holy sites, ancient cities) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Identify and demonstrate understanding of the impact of individuals, groups, religions, social organizations, and movements on history (e.g., Susan B. Anthony, Abraham Lincoln, Mohammed, Mahatma Ghandi, Eleanor Roosevelt, imperialism, worldwide immigration and cultural diffusion, the Industrial Revolution, women’s and Civil Rights movements, post–Second World War technological advances) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Identify and demonstrate understanding of the causes, results, and consequences of social, political, economic, and military events (e.g., the U.S. Revolutionary War and Civil War, independence struggles, the slave trade, U.S. westward expansion, the First and Second World Wars, industrialization, and immigration) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. People, Places, and Geographic Regions** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Demonstrate understanding of the interaction between people and places, especially the impact of human activity on the physical environment, the environment’s impact on people’s lives and culture, and human adaptation to the environment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Demonstrate the ability to use basic geographic literacy skills (e.g., geographic tools: maps, graphs, charts) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Civics and Government** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Demonstrate an understanding of major systems of government and how they function, including the major features of the U.S. political system |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Demonstrate an understanding of rights and responsibilities of U.S. citizens (e.g., voting, taxation, civic participation) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **D. Scarcity and Economic Choice** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Demonstrate an understanding of the economic factors and principles that affect individuals, institutions, nations, and events, and how economic factors interact with other factors, such as geographic features and cultural values |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **IV. Science (25%)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| The Science section of the test focuses on assessing the candidate’s general background knowledge and understanding of the fundamental facts, basic concepts, principles, processes, methods, and skills that are common to the various scientific disciplines. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| It is important for teachers to have a basic understanding of: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **A. Nature and History of Science** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understand common methods and tools used gather data, such as using thermometers and microscopes, and is familiar with common units of measurement, such as temperature scales, mass, distance, volume, pressure, and energy |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Identify and use the elements of scientific inquiry for problem solving, including observations, hypotheses, theories, experimental design, and sources of error |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Recognize important scientific developments and contributions made by major historical figures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Interpret and draw conclusions from scientific data, including those presented in tables, graphs, maps, and charts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **B. Basic Principles and Fundamentals of Science** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Understand basic concepts of physics, including forces and motion, speed and acceleration, gravity, mass and weight, static electricity, magnetism, and properties of light, color, and sound |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Understand energy relationships and transformations in both living and nonliving contexts, including conservation of energy; kinetic and potential energy; heat transfer by conduction, convection, and radiation; properties of solids, liquids, and gases; and changes of state such as melting and evaporation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Understand basic concepts of chemistry, including atomic structure, elements, compounds, mixtures, physical properties, common chemical reactions, pH and acid-base properties, and solubility of common substances |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Understand basic biological concepts, including cell structure and processes; photosynthesis; biological molecules such as DNA, proteins, and carbohydrates; simple genetics, general characteristics of common organisms; basic structure and functions of the human body; and processes by which species change over time including evolution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Understand basic concepts of ecology, including ecosystems, food chains, population changes, and relationships between species such as predator-prey |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Understand basic concepts in earth and space science including rocks; plate tectonics; volcanoes; earthquakes; the water cycle; weathering; erosion; geologic history; ocean tides; weather and the atmosphere; climate; and astronomy, including the characteristics of the solar system, stars, galaxies, and other features of the universe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **C. Science, Technology, and Social Perspectives** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Demonstrate understanding of the impact of science and technology on the environment and human affairs, including enhanced greenhouse effect, waste disposal, and air and water pollution |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Be aware of the impact of science on public health issues, such as nutrition, disease, and medical technologies |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Understand the role of science and technology in the management of natural resources and the production of energy, including renewable and nonrenewable resources, conservation, recycling, alternative energy sources, and the advantages and disadvantages of various types of energy production |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |