

Texas Assessment of Knowledge and Skills Performance Level Descriptors

Science Grade 5

Did Not Meet the Standard	Met the Standard	Commended Performance
Unsatisfactory performance; below state passing standard; insufficient understanding of the science TEKS curriculum	Satisfactory performance; at or above state passing standard; sufficient understanding of the science TEKS curriculum	High academic achievement; considerably above state passing standard; thorough understanding of the science TEKS curriculum
Students Who Did Not Meet the Standard	Students Who Met the Standard	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Have difficulty understanding science vocabulary and concepts 2. Have difficulty demonstrating on-grade-level reading and math skills 3. Have difficulty interpreting data from charts and graphs 4. Have difficulty understanding the use and purpose of models to represent the natural world 5. Have difficulty recognizing, understanding, and communicating important details and transferring knowledge to new situations 6. Have difficulty understanding experimental investigations, interpreting results, and drawing conclusions 7. Have difficulty with science problem-solving skills 8. Have difficulty following and using science tools properly 9. Have difficulty understanding and following science safety rules and procedures 10. Have difficulty understanding cycles in nature and patterns and characteristics of the Earth (solar system, plants and animals, rock types, etc.) 	<ol style="list-style-type: none"> 1. Understand science vocabulary and concepts 2. Can apply on- or near-grade-level math and reading skills to science concepts 3. Read and interpret graphs, charts, and data 4. Recognize that models can be used to demonstrate the natural world 5. Understand experimental investigations, know the steps involved in scientific processes, and interpret stated results 6. Apply scientific knowledge to their own experiences and make general transfers of science concepts to real-world situations 7. Use observations (the five senses) to draw simple conclusions 8. Understand proper operational use of tools and equipment 9. Understand and follow safety procedures 10. Recognize patterns and characteristics of the Earth (solar system, plants and animals, rock types, etc.) 11. Recognize cycles in nature, identify their parts, and demonstrate a simple understanding of their function 	<ol style="list-style-type: none"> 1. Thoroughly understand and have the ability to use science vocabulary and concepts 2. Demonstrate a thorough understanding of on-grade-level math and reading skills and can apply them to science concepts 3. Construct graphs and charts based on information gathered, analyze data and draw conclusions, and predict and apply beyond familiar situations 4. Fully understand the use and limitations of models that demonstrate the natural world 5. Demonstrate a thorough understanding of scientific processes and skills by planning experimental investigations, interpreting results, drawing conclusions, and inferring beyond stated results 6. Apply scientific knowledge and use problem-solving skills in a variety of real-world situations 7. Understand the cause and effect related to safety practices in the science classroom 8. Consistently recognize patterns and characteristics of the Earth (solar system, plants and animals, rock types, etc.) 9. Understand cycles in the natural world and recognize cause and effect relationships between and within the cycles 10. Strive for accuracy 11. Ask questions and pose problems 12. Think and communicate with clarity and precision

Texas Assessment of Knowledge and Skills Performance Level Descriptors

Science Grade 8

Did Not Meet the Standard	Met the Standard	Commended Performance
Unsatisfactory performance; below state passing standard; insufficient understanding of the science TEKS curriculum	Satisfactory performance; at or above state passing standard; sufficient understanding of the science TEKS curriculum	High academic achievement; considerably above state passing standard; thorough understanding of the science TEKS curriculum
Students Who Did Not Meet the Standard	Students Who Met the Standard	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Have difficulty understanding science vocabulary and content 2. Have difficulty reading and demonstrating on-grade-level math skills 3. Have difficulty determining cause and effect and solving problems because of weak critical-thinking skills 4. Have difficulty with graphs, charts, tables, and transferring information 5. Have difficulty with the organizational skills needed to plan an experiment 6. Have difficulty interpreting/analyzing data and drawing conclusions 7. Have difficulty with scales and measuring 8. Have difficulty with attention to detail 9. Have difficulty recognizing patterns and processes most of the time 10. Have difficulty choosing proper lab equipment 11. Have difficulty demonstrating an understanding of proper safety procedures 12. Have difficulty distinguishing what is important from what is not important 13. Have difficulty transferring skills and applying content within science disciplines 14. Have difficulty making connections in post-lab activities 15. Have difficulty making connections between concepts and content 16. Have difficulty integrating processes with content 17. Have difficulty remembering what has been learned 	<ol style="list-style-type: none"> 1. Use scientific vocabulary appropriately most of the time 2. Use mathematics to solve scientific problems 3. Can identify cause and effect 4. Read and interpret graphs accurately 5. Understand experimental design and can organize an experiment 6. Recognize variables 7. Collect and organize data appropriately 8. Make predictions and form hypotheses 9. Conduct some scientific research 10. Make accurate measurements 11. Recognize patterns and processes (of all science cycles) 12. Make inferences and draw conclusions from information presented 13. Know how to select and use the appropriate lab equipment 14. Follow specified safety procedures 15. Understand representation of models 16. Use technology appropriately 17. Make connections with post-lab activities most of the time 18. Apply science concepts to real-life situations and problems 19. Integrate processes with content into various contexts 	<ol style="list-style-type: none"> 1. Recognize, use, apply and interpret appropriate science vocabulary as related to content. 2. Internalize scientific concepts 3. Exhibit critical-thinking skills and can solve multi-step problems 4. Determine what is needed to interpret data and set up appropriate tables and charts 5. Generate answers without being given answer choices 6. Independently design and perform scientific investigations 7. Extrapolate and make predictions from collected data 8. Conduct experiments successfully using proper lab procedures 9. Figure out answers based on prior knowledge 10. Distinguish between extraneous and pertinent information 11. Apply and transfer prior knowledge 12. Synthesize two or more concepts at the same time 13. Remember facts/details/content 14. Use technology in scientific investigations 15. Understand the relationships and see the connections between concepts 16. Transfer information to a different situation or context 17. Evaluate situations and draw conclusions in new situations

Texas Assessment of Knowledge and Skills Performance Level Descriptors

Science Grade 10

Did Not Meet the Standard	Met the Standard	Commended Performance
Unsatisfactory performance; below state passing standard; insufficient understanding of the science TEKS curriculum	Satisfactory performance; at or above state passing standard; sufficient understanding of the science TEKS curriculum	High academic achievement; considerably above state passing standard; thorough understanding of the science TEKS curriculum
Students Who Did Not Meet the Standard	Students Who Met the Standard	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Have difficulty using science vocabulary and appropriate reading and math skills 2. Have difficulty interpreting graphs, charts, diagrams, and models 3. Have difficulty with organization 4. Have difficulty recognizing, understanding and communicating important details 5. Have difficulty using simple formulas and performing one- or two-step calculations 6. Have difficulty persisting when faced with complex tasks and mathematical problems 7. Have difficulty measuring with precision instruments, distinguishing between appropriate tools and safely using scientific equipment and tools 8. Have difficulty collecting, organizing, and interpreting data 9. Have difficulty justifying conclusions 10. Have difficulty generalizing information and making connections to real-world situations or within and across curriculum disciplines 11. Have difficulty understanding the use and purpose of models to represent the natural world 12. Have difficulty grouping according to general characteristics 13. Have difficulty identifying trends, patterns, and relationships 14. Have difficulty understanding the concepts of motion, forces, and energy 15. Have difficulty understanding the properties, structures, and 	<ol style="list-style-type: none"> 1. Recognize and use appropriate science vocabulary as related to content 2. Read and interpret a graph or chart with two variables 3. Understand how various charts and models are used in science 4. Develop the ability to select, rearrange, and use a formula to solve for unknown variables 5. Develop the ability solve multi-step problems (e.g., balancing and interpreting simple chemical equations) 6. Collect and organize data 7. Measure with general precision using various common science tools (e.g., metric ruler, graduated cylinder, and balance) 8. Develop the ability to recognize a testable hypothesis, make proper observations, and arrive at a valid conclusion 9. Safely use appropriate scientific tools and equipment (e.g., microscope) 10. Group based on general characteristics (e.g., matter, plants, animals) 11. Interpret energy transfer within various science disciplines 12. Understand, interpret, and use the concepts of motion, forces, and energy 13. Understand the significance of structures and adaptations of living systems and apply knowledge across levels of organization (from the single cell to the ecosystem) 14. Understand the properties, structures, and interactions of matter (e.g., periodic trends, 	<ol style="list-style-type: none"> 1. Recognize, use, apply, and interpret appropriate science vocabulary as related to content 2. Read, interpret, apply, and summarize scientific literature 3. Understand and interpret how more complex charts and models are used in science 4. Interpret and construct graphs and charts with multiple variables 5. Select, use, and rearrange formulas to solve for unknown variables 6. Distinguish between relevant and irrelevant data 7. Measure with tools and equipment of varying precisions 8. Solve multi-step problems 9. Show persistence in problem solving 10. Collect, organize, and interpret data independently 11. Make proper observations, arrive at testable hypotheses, and communicate valid conclusions 12. Select and safely use appropriate tools and equipment for complex tasks 13. Compare, contrast, and group according to specific characteristics 14. Understand the properties, structures, and interactions of matter (e.g., periodic trends, balancing equations) 15. Understand the concepts of motion, forces, and energy 16. Evaluate the significance of structures and adaptations of living systems and apply knowledge across levels of organization (from the single cell to the ecosystem)

<p>interactions of matter (e.g., periodic trends, balancing equations)</p> <p>16. Have difficulty interpreting basic energy transfers within specific science disciplines (e.g., photosynthesis)</p> <p>17. Have difficulty understanding the significance of structures and adaptations of living systems and applying knowledge across levels of organization (from the single cell to the ecosystem)</p>	<p>balancing equations)</p> <p>15. Apply information to new situations and make connections across various science disciplines and real-world situations</p>	<p>17. Apply information to new situations</p> <p>18. Make connections across scientific disciplines, search for additional information, and apply to real-world situations</p>
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Texas Assessment of Knowledge and Skills Performance Level Descriptors

Science Grade 11

Did Not Meet the Standard	Met the Standard	Commended Performance
Unsatisfactory performance; below state passing standard; insufficient understanding of the science TEKS curriculum	Satisfactory performance; at or above state passing standard; a sufficient understanding of the science TEKS curriculum	High academic achievement; considerably above state passing standard; a thorough understanding of the science TEKS curriculum
Students Who Did Not Meet the Standard	Students Who Met the Standard	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Have difficulty using science vocabulary and appropriate reading and math skills 2. Have difficulty interpreting graphs, charts, diagrams, and models 3. Have difficulty with organization 4. Have difficulty recognizing, understanding and communicating important details 5. Have difficulty using simple formulas and performing one- or two-step calculations 6. Have difficulty following through when faced with complex tasks and mathematical problems 7. Have difficulty collecting, organizing, and interpreting data 8. Have difficulty measuring with precision instruments, distinguishing between appropriate tools, and safely using both scientific equipment and tools 9. Have difficulty justifying conclusions 10. Have difficulty generalizing information and making connections to real world situations or within and across curriculum disciplines 11. Have difficulty understanding the use and purpose of models to represent the natural world 12. Have difficulty grouping according to general characteristics 13. Have difficulty identifying trends, patterns, and relationships 14. Have difficulty understanding the concepts of motion, forces, and energy 15. Have difficulty understanding the properties, structures, and interactions of matter (e.g., periodic trends, balancing equations) 16. Have difficulty interpreting basic 	<ol style="list-style-type: none"> 1. Recognize and use appropriate science vocabulary as related to content 2. Read and interpret graphs or charts with two variables 3. Understand how various charts and models are used in science 4. Develop the ability to select, rearrange, and use a formula to solve for unknown variables 5. Develop the ability to solve multi-step problems (e.g., balancing and interpreting simple chemical equations) 6. Collect and organize data 7. Measure with general precision using various common science tools (e.g., metric ruler, graduated cylinder, and balance) 8. Develop the ability to recognize a testable hypothesis, make proper observations, and arrive at a valid conclusion 9. Use appropriate scientific tools and equipment safely (e.g., microscope) 10. Group based on general characteristics (e.g., matter, plants, animals) 11. Interpret energy transfer within various science disciplines 12. Understand, interpret, and use the concepts of motion, forces, and energy 13. Understand the significance of structures and adaptations of living systems and apply knowledge across levels of organization (from the single cell to the ecosystem) 14. Understand the properties, structures, and interactions of matter (e.g., periodic trends, balancing equations) 15. Apply information to new 	<ol style="list-style-type: none"> 1. Recognize, use, apply, and interpret appropriate science vocabulary as related to content 2. Interpret and construct graphs and charts with multiple variables 3. Understand and interpret how more complex charts and models are used in science 4. Select, use, and rearrange formulas to solve for unknown variables 5. Read, interpret, apply, and summarize scientific literature 6. Distinguish between relevant and irrelevant data 7. Solve multi-step problems 8. Show persistence in problem solving 9. Collect, organize, and interpret data independently 10. Measure with tools and equipment of varying precisions 11. Make proper observations, arrive at testable hypotheses, and communicate valid conclusions 12. Select and safely use appropriate tools and equipment for complex tasks 13. Compare, contrast, and group according to specific characteristics 14. Understand the properties, structures, and interactions of matter (e.g., periodic trends, balancing equations) 15. Understand the concepts of motion, forces, and energy 16. Evaluate the significance of structures and adaptations of living systems and apply knowledge across levels of

<p>energy transfers within specific science disciplines (e.g., photosynthesis)</p> <p>17. Have difficulty understanding the significance of structures and adaptations of living systems and have difficulty applying knowledge across levels of organization (from the single cell to the ecosystem)</p>	<p>situations and make connections across various science disciplines and real-world situations</p> <p>16. Read and interpret scientific literature</p>	<p>organization (from the single cell to the ecosystem)</p> <p>17. Apply information to new situations</p> <p>18. Make connections across scientific disciplines, search for additional information, and apply to real-world situations</p>
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Texas Assessment of Knowledge and Skills Distinguishing Features

Science

GRADE 5	GRADE 8
Did Not Meet the Standard vs. Met the Standard	Did Not Meet the Standard vs. Met the Standard
Students Who Met the Standard	Students Who Met the Standard
<ol style="list-style-type: none"> 1. Have a general understanding of science vocabulary and concepts and work at or near grade level in reading and math 2. Understand experimental investigations, know the steps involved in scientific processes, and can interpret stated results 3. Can apply scientific knowledge to their own experiences and make general transfers of science concepts to real-world situations 	<ol style="list-style-type: none"> 1. Know most of the science concepts and skills outlined in the TEKS 2. Can conduct an experiment, organize data into charts and graphs, and make inferences from and interpret their data 3. Recognize change, patterns, and processes and can make general transfers of science concepts to real-world situations
GRADE 5	GRADE 8
Met the Standard vs. Commended Performance	Met the Standard vs. Commended Performance
Students Who Achieved Commended Performance	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Have a thorough understanding and ability to use science vocabulary and concepts 2. Can apply scientific concepts to real-world situations and extend that application into the future 3. Plan experimental investigations, thoroughly understand scientific processes, interpret results, draw conclusions, and infer beyond stated results by using critical-thinking skills 	<ol style="list-style-type: none"> 1. Solve problems by applying science concepts and skills 2. Integrate content and complex processes most of the time 3. Connect and apply concepts across different science disciplines and to real-world situations

Texas Assessment of Knowledge and Skills Distinguishing Features

Science

<u>GRADE 10</u>	<u>GRADE 11</u>
Did Not Meet the Standard vs. Met the Standard	Did Not Meet the Standard vs. Met the Standard
Students Who Met the Standard	Students Who Met the Standard
<ol style="list-style-type: none"> 1. Have an understanding of and are experienced in using science vocabulary and appropriate reading and math skills 2. Have lab skills—can conduct experiments safely, collect data accurately, make observations, make hypotheses, and draw and support some conclusions 3. Can see relationships, use diagrams, identify major trends, and make limited connections to real-world situations and/or between curriculum disciplines 	<ol style="list-style-type: none"> 1. Have an understanding of and are experienced in using science vocabulary and appropriate reading and math skills 2. Have lab skills—can conduct experiments safely, collect data accurately, make observations, make hypotheses, and draw and support some conclusions 3. Can see relationships, use diagrams, identify major trends, and make limited connections to real-world situations and/or between curriculum disciplines
<u>GRADE 10</u>	<u>GRADE 11</u>
Met the Standard vs. Commended Performance	Met the Standard vs. Commended Performance
Students Who Achieved Commended Performance	Students Who Achieved Commended Performance
<ol style="list-style-type: none"> 1. Demonstrate the ability to find trends, elaborate, explain reasons and go beyond what is given by using original ideas 2. Collect, integrate, analyze, and communicate science data, concepts, and skills in various science disciplines 3. Demonstrate the necessary persistence in solving problems 	<ol style="list-style-type: none"> 1. Demonstrate the ability to find trends, elaborate, explain results and go beyond what is given by using original ideas. 2. Collect, integrate, analyze, and communicate science data, concepts, and skills in various science disciplines 3. Demonstrate the necessary persistence in solving problems