

Science and Technology/Engineering

General Performance Level Definitions Grades 5 & 8 and High School

Student results on the MCAS tests at grades 5 and 8 and high school are reported according to four performance levels: *Warning/Failing*, *Needs Improvement*, *Proficient*, and *Advanced*. The selected definitions below illustrate the kinds of knowledge and skills students demonstrate on MCAS at each level. No definitions are provided for the *Warning/Failing* performance level because student work at this level, by definition, does not meet the criteria of the *Needs Improvement* Level.

	<i>Needs Improvement</i> On MCAS, a student at this level	<i>Proficient</i> On MCAS, a student at this level	<i>Advanced</i> On MCAS, a student at this level
Conceptual Understanding and Factual Knowledge	<ul style="list-style-type: none"> • Demonstrates a partial understanding of some facts, concepts, principles, and theories • Uses basic scientific terms 	<ul style="list-style-type: none"> • Demonstrates a solid understanding of many facts, concepts, principles, and theories • Uses appropriate scientific terms 	<ul style="list-style-type: none"> • Demonstrates a comprehensive, in-depth understanding of many facts, concepts, principles, and theories • Applies scientific terms in an appropriate context
Scientific Process and Skills	<ul style="list-style-type: none"> • Interprets simple data and creates generalized questions without necessarily using the scientific method • Identifies a problem to be solved 	<ul style="list-style-type: none"> • Uses most of the steps of the scientific method to design and interpret experiments • Finds solutions to a variety of problems 	<ul style="list-style-type: none"> • Designs and evaluates scientific experiments and generates full interpretations of data • Finds solutions to complex problems
Application/Synthesis	<ul style="list-style-type: none"> • Makes simple predictions about a specific topic 	<ul style="list-style-type: none"> • Makes predictions based on information given • Justifies predictions in a general sense 	<ul style="list-style-type: none"> • Makes sophisticated predictions • Synthesizes a wide array of information from multiple sources • Applies knowledge to abstract or novel situations