

**Science Global Performance Descriptors for APTA
Grades 4, 6 and 11**

Grade 4		Grade 6	
Performance Levels	Science SC 4.1 Nature of Science	Performance Levels	Science SC 6.1 Nature of Science
Above Mastery	The student demonstrates knowledge that exceeds the extended standards in nature of science. The student will perform the following complex task without assistance: interpret information yielded a variety of tools.	Above Mastery	The student demonstrates performance and shows an application of knowledge that exceeds the extended standards in nature of science. The student will perform the following complex task without assistance: sequence a scientific process to solve a problem; explore the contributions of science.
Mastery	The student demonstrates knowledge that meets the extended standards in nature of science. The student will perform the following task without assistance: apply tools in the investigation of scientific concepts (magnifying glass, thermometer, ruler, microscope).	Mastery	The student demonstrates knowledge that meets the extended standards in nature of science. The student will perform the following task without assistance: apply scientific processes used in problem solving; recognize the contributions of science.
Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in nature of science. The student will perform the following with assistance: match scientific instrument or tool to its appropriate use.	Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in nature of science. The student will perform the following with assistance: match a scientific process to a task; match scientific developments to their function.
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in nature of science. The student will attempt to perform the following with assistance: identify a scientific instrument.	Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in nature of science. The student will attempt to perform the following with assistance: identify items relating to scientific processes; select picture of a scientific invention that has made life easier..
	Science SC 4.2 Content of Science		Science SC 6.2 Content of Science
Above Mastery	The student demonstrates knowledge that exceeds the extended standards in content of science. The student will perform the following complex task without assistance:	Above Mastery	The student demonstrates performance and shows an application of knowledge that exceeds the extended standards in content of science. The student will perform the following complex task

	compare different characteristics of living organisms and different characteristics of non-living organisms; compare different types of forces of motion; predict the effect of different natural events on the environment.		without assistance: interpret the life cycles in nature; determine the properties and processes of energy and matter; interpret the impact of the moon and sun on earth.
Mastery	The student demonstrates knowledge that meets the extended standard in content of science. The student will perform the following task without assistance: describe characteristics of matter in the environment; recognize different types of forces of motion; compare the effect of different natural events on the environment.	Mastery	The student demonstrates knowledge that meets the extended standard in content of science. The student will perform the following task without assistance: describe the life cycles in nature; classify the properties and processes of energy; explain the relationships between the earth, moon and sun.
Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in content of science. The student will perform the following with assistance: Identify characteristics of living matter; classify objects according to how they move (roll, swing, float, fly); describe the effects of a natural event on the environment.	Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in content of science. The student will perform the following with assistance: match stage of a life cycle to an animal; identify the properties and processes of energy; match the relationships between the earth, moon and sun.
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in content of science. The student will attempt to perform the following with assistance: indicate example of living/non-living things; identify an object that rolls and one that does not; identify a natural event.	Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in content of science. The student will attempt to perform the following with assistance: select the stage in a life cycle; choose objects that represent properties and processes of energy; identify the earth, moon and sun.
	Science SC 4.3 Application of Science		Science SC 6.3 Application of Science
Above Mastery	The student demonstrates knowledge that exceeds the extended standard in application of science. The student will perform the following complex task without assistance: complete the parts of a scientific system/patterns within environment.	Above Mastery	The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in application of science. The student will perform the following complex task without assistance: predict changes in systems.
Mastery	The student demonstrates knowledge that meets the extended standard in application of science. The student will perform the following task without assistance: compare scientific systems and patterns within the environment.	Mastery	The student demonstrates knowledge that meets the extended standard in application of science. The student will perform the following task without assistance; describe changes in the earth's system.
Partial	The student demonstrates knowledge characterized by errors	Partial	The student demonstrates knowledge characterized by errors

Mastery	and/or omissions in application of science. The student will perform the following with assistance: select scientific systems/patterns.	Mastery	and/or omissions in application of science. The student will perform the following with assistance: match parts of a system to a whole.
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in application of science. The student will attempt to perform the following with assistance: identify scientific systems/patterns.	Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in application of science. The student will attempt to perform the following with assistance: identify a system.
	Grade 11		
Performance Levels	Science SC.CC.1 Nature of Science		
Above Mastery	The student demonstrates knowledge that exceeds the extended standards in nature of science. The student will perform the following complex task without assistance: interpret and graph collective data; sequence chronologically related scientific innovations.		
Mastery	The student demonstrates knowledge that meets the extended standards in nature of science. The student will perform the following task without assistance: safely use laboratory equipment to measure items; identify scientific innovations in chemistry.		
Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in nature of science. The student will perform the following with assistance: match the instrument to its function; match a modern scientific to its use.		
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in nature of science. The student will attempt to perform the following with assistance: identify laboratory equipment; identify a modern scientific instrument.		

	Science SC.CC.2 Content of Science
Above Mastery	The student demonstrates knowledge that exceeds the extended standards in content of science. The student will perform the following complex task without assistance: organize examples of solids into non-metals and metals; apply knowledge of chemical changes; predict the changes in mass, temperature or concentration, given different circumstances.
Mastery	The student demonstrates knowledge that meets the extended standard in content of science. The student will perform the following task without assistance: classify examples of matter based on their properties; identify the difference between a chemical change and a physical change; compare substances by mass, temperature or concentration.
Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in content of science. The student will perform the following with assistance: sort items based on properties of matter; identify a chemical change; recognize that mass and temperature can be changed.
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in content of science. The student will attempt to perform the following with assistance: identify an item as a solid or a liquid; identify a physical change; identify that temperature is a measure of heat in a substance and that mass is the amount of matter in a substance.
	Science SC CC.3 Application of Science
Above Mastery	The student demonstrates knowledge that exceeds the extended standard in application of science. The student will perform the following complex task without assistance: determine solutions to environmental problems.
Mastery	The student demonstrates knowledge that meets the extended

	standard in application of science. The student will perform the following task without assistance: describe the impact of technology on the environment.
Partial Mastery	The student demonstrates knowledge characterized by errors and/or omissions in application of science. The student will perform the following with assistance: recognizes causes of pollution.
Novice	The student demonstrates knowledge characterized by fragmented and incomplete performance in application of science. The student will attempt to perform the following with assistance: identify different types of pollution.