

Exhibit 2.1: Descriptions of the TIMSS 2015 International Benchmarks of Science Achievement

625	Advanced International Benchmark	●
<p><i>Students communicate understanding of life, physical, and Earth sciences and demonstrate some knowledge of the process of scientific inquiry.</i> Students demonstrate knowledge of characteristics and life processes of a variety of organisms, communicate understanding of relationships in ecosystems and interactions between organisms and their environment, and communicate and apply knowledge of factors related to human health. They communicate understanding of properties and states of matter and physical and chemical changes, apply some knowledge of forms of energy and energy transfer, and show some knowledge of forces and an understanding of their effect on motion. Students communicate understanding of Earth's structure, physical characteristics, processes, and history and show knowledge of Earth's revolution and rotation. Students demonstrate basic knowledge and skills related to scientific inquiry, recognizing how a simple experiment should be set up, interpreting the results of an investigation, reasoning and drawing conclusions from descriptions and diagrams, and evaluating and supporting an argument.</p>		
550	High International Benchmark	○
<p><i>Students communicate and apply knowledge of the life, physical, and Earth sciences in everyday and abstract contexts.</i> Students communicate knowledge of characteristics of plants, animals, and their life cycles, and apply knowledge of ecosystems and of humans' and organisms' interactions with their environment. Students communicate and apply knowledge of states and properties of matter, and of energy transfer in practical contexts, as well as showing some understanding of forces and motion. Students apply knowledge of Earth's structure, physical characteristics, processes, and history and show basic understanding of the Earth-Moon-Sun system. Students compare, contrast, and make simple inferences using models, diagrams, and descriptions of investigations, and provide brief descriptive responses using science concepts, both in everyday and abstract contexts.</p>		
475	Intermediate International Benchmark	●
<p><i>Students show basic knowledge and understanding of life, physical, and Earth sciences.</i> Students demonstrate some knowledge of life processes of plants and humans, communicate and apply knowledge of the interaction of living things with their environments as well as impacts humans can have on their environment, and communicate knowledge of basic facts related to human health. They apply knowledge about some properties of matter and about some facts related to electricity and to energy transfer, and apply elementary knowledge of forces and motion. They show some understanding of Earth's physical characteristics and demonstrate some basic knowledge of Earth in the solar system. Students interpret information in diagrams, apply factual knowledge to everyday situations, and provide simple explanations for biological and physical phenomena.</p>		
400	Low International Benchmark	○
<p><i>Students show basic knowledge of life and physical sciences.</i> Students demonstrate some basic knowledge of behavioral and physical characteristics of plants and animals as well as of the interaction of living things with their environments, and apply knowledge of some facts related to human health. Students show basic knowledge of states of matter and physical properties of matter. They interpret simple diagrams, complete simple tables, and provide short, fact-based written responses.</p>		

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015