

**Exhibit 17. Common U.S. and international Population 1 science performance expectations.** U.S. and international curriculum guides and textbooks have comparable numbers of common performance expectations. State curriculum guides include performance expectations from only two major categories. U.S. textbooks include more. [This exhibit lists topics from the TIMSS' science framework intended by at least 70 percent of the countries (international) or at least 70 percent of sampled state guides (U.S.) for the upper grade of Population 1 (U.S. grade 4). Bold-face labels are more general categories that subsume more specific (non-bold-face) performance expectations. Both lists (U.S. and international) are arranged in three categories — specific expectations listed only in 70 percent of curriculum guides, those listed in 70 percent of both curriculum guides and textbooks, and those listed only in 70 percent of the textbooks. Asterisks mark performance expectations receiving more extensive textbook attention.]

Intentions in TIMSS Countries	U.S. Intentions
<b>CURRICULUM GUIDES (Not in Textbooks)</b>	
<b>Investigating the natural world</b> Conducting investigations Interpreting investigational data	<b>Using tools, routines procedures, and science processes</b> Interpreting data
<b>CURRICULUM GUIDES (Included in Textbooks)</b>	
<b>Understanding</b> Simple information* Complex information  <b>Using tools, routine procedures, and science processes</b> Using apparatus, equipment, computers Conducting routine experimental operations Gathering data	<b>Understanding</b> Simple information*  <b>Using tools, routine procedures, and science processes</b> Using apparatus, equipment, computers  Gathering data Organizing and representing data
<b>EXCLUSIVELY IN TEXTBOOKS</b>	
<b>Using tools, routine procedures, and science processes</b> Organizing and representing data	<b>Understanding</b> Complex information  <b>Theorizing, analyzing, and solving problems</b> Applying scientific principles to develop explanations Constructing, interpreting, and applying models  <b>Using tools, routine procedures, and science processes</b> Conducting routine experimental operations  <b>Investigating the natural world</b> Designing investigations Conducting investigations Interpreting investigational data  <b>Communicating</b> Accessing and processing information Sharing information