

Figure 3: 4th Grade Core Science Topics. These topics are those that are common to 70 percent of the official curricula and textbooks of the US ("US core") and 70 percent of other TIMSS countries ("world core"). The "US Teacher Core" are those reported by 70 percent of the US teachers surveyed. Asterisks show emphasized topics. The "basics" (core) of US 4th grade science are far fewer than was true for mathematics, although teachers indicate teaching more than these common topics. The US core matches the world core quite well and thus is likely to be appropriately assessed by a test designed to test the "world core".

World Core	US Core	US Teacher Core ¹
Weather & Climate		Earth Composition Landforms Bodies of Water Rocks, Soil Weather & Climate Earth Physical Cycles/Bldg. & Break.
Earth in the Solar System		
Plants, Fungi*	Plants, Fungi*	Diversity of Living Things
Animals*	Animals*	Diversity of Living Things
Organs, Tissues	Organs, Tissues	Organs, Tissues, Cells Life Processes and Systems Life Cycles & Genetics
Interdependence of Life	Biomes and Ecosystems Interdependence of Life	Interactions of Living Things Interactions of Living Things Animal Behavior Human Health Human Biology
Physical Properties of Matter	Physical Properties of Matter	
Energy Types, Sources, and Conversions	Energy Types, Sources, and Conversions Light Electricity	Energy Processes Physical Transformations
Conservation of Land, Water, and Sea Resources		Environmental and Resource Issues Nature of Science

¹ Some of the framework topics were aggregated together when presented to teachers and were at a different level of specificity than presented here in the world core; therefore, the numbers in this column may represent teaching of the larger category which includes the specific topic listed here.