

**Exhibit 47. Who are our closer peers in grade 8 science?** Strong emphases are fewer in science than in mathematics. The cluster containing the U.S. again appears to be defined by inclusiveness and a lack of emphases. [The data in this exhibit are the percentages of textbook blocks devoted to framework topics in grade 8 science textbooks across countries. We used them to cluster the TIMSS countries into seven groups of "near peers" in terms of composite grade 8 science textbook content. For each cluster, we report the average percentages of textbook blocks devoted to the most specific science framework topics.]

	Cluster Group							
	Argentina	Canada	Colombia	Bulgaria	Austria	Iran	Australia	Czech Republic
	Cyprus	Mexico	Tunisia	People's Rep. of China	Belgium (Fr)*	South Africa	Belgium (FI)*	France
	Latvia	Netherlands		Greece	Hong Kong		Ireland	Japan
	Philippines	Norway		Iceland	Hungary		Lithuania	Korea
		Spain		New Zealand	Italy		Russian Federation	Romania
				U.S.	Portugal		Scotland	Slovak Republic
					Singapore		Switzerland	Slovenia
					Sweden			
<b>Science Topics</b>								
<b>Earth Science</b>								
<b>Earth Processes</b>								
Weather & Climate	1	6	2	2	2	12	1	3
<b>Earth in the Universe</b>								
Earth in the Solar System	2	2	1	2	2	7	1	0
<b>Life Sciences</b>								
<b>Diversity, Organization, Structure of Living Things</b>								
Animals	0	2	4	7	4	0	12	2
Organs, Tissues	3	5	5	11	6	2	9	3
<b>Life Processes and Systems Enabling Life Functions</b>								
Energy Handling	3	3	11	4	4	0	4	3
<b>Life Spirals, Genetic Continuity, Diversity</b>								
Life cycles	1	1	13	3	0	9	3	0
<b>Interactions of Living Things</b>								
Reproduction	3	2	16	2	2	10	2	2
Animal Behavior	0	1	8	2	1	0	1	1
Human Biology & Health	1	3	0	11	4	0	9	4
<b>Physical Sciences</b>								
<b>Matter</b>								
Classification of Matter	2	5	8	2	4	3	6	4
<b>Energy &amp; Physical Processes</b>								
Energy Types, Sources, Conversions	14	4	2	6	3	8	5	3
Heat & Temperature	6	3	1	2	4	0	6	1
Light	7	1	0	3	6	5	4	2
Electricity	0	1	0	1	8	9	10	23
<b>Physical Transformations</b>								
Physical Changes	3	3	6	4	1	4	2	1
<b>Chemical Transformations</b>								
Chemical Changes	2	3	1	3	4	3	3	8
<b>Forces &amp; Motion</b>								
Time, Space, Motion	4	3	2	3	2	0	1	1
Dynamics of Motion	3	1	2	1	1	4	1	0
<b>Science, Technology, &amp; Mathematics</b>								
<b>Interactions of Science, Mathematics, &amp; Technology</b>								
Applications of Science in Mathematics, Technology	6	2	0	5	4	0	3	3
<b>Environmental &amp; Resource Issues</b>								
<b>Food Production, Storage</b>	0	2	8	2	1	0	2	1

\* The national Research Coordinators of Belgium have collected data only from curriculum guides. Due to the great level of detail of the guides, and their extensive use, data from these are compared in this display with the textbook data supplied from all other countries.

Note: Countries not included: Denmark, Dominican Republic, Germany (did not code Biology text) and Israel.