

Exhibit 21. The five topics emphasized most in Population 1 mathematics textbooks. At Population 1, U.S. mathematics books were somewhat focused but not as much so as was true internationally. For the upper grade of Population 1, the five most emphasized topics accounted for about 60 percent of U.S. and Japanese mathematics textbooks on average. This was far lower than the international average of over 85 percent. In the U.S., one of the emphasized "topics" was 'other content,' a combination of an unknown number of topics not in the TIMSS mathematics framework. [Data collection partitioned each textbook into "blocks" — small segments used as units of analysis. Each bar shows the cumulative percentage of textbook "blocks" for the five topics with the largest percentages of blocks devoted to them. These data are country or multi-country averages for mathematics textbooks at the upper grade of Population 1 (U.S. grade 4). Bars are for the average over all TIMSS countries, for Japan, and for the U.S. German textbook data were not available at this level. For the U.S. and Japan, each segment's specific TIMSS framework topic (e.g., 'whole number operations') could be determined and is shown. Internationally, the five topics varied among countries. We show them only as most emphasized (highest percentage of blocks), second most emphasized, etc.]

