

TIMSS 2011 Pilot of Reasoning Items

Because TIMSS 2011 aims to measure the cognitive domain of reasoning, items were written to elicit students' abilities to solve problems, develop explanations, and extend their knowledge to new situations. However, due to the complexity of these skills, reasoning items can be a challenge to write clearly and score reliably. To help ensure that the reasoning field test items were accessible to students of mid-range mathematics and science ability, Australia conducted a small pilot test in Australia in October 2009. Based on the number of students who attempted to answer each question in the pilot and the types of responses they wrote, the staff, in consultation with the mathematics and science coordinators, determined the difficulty of the task. The results were used to refine these complex items and scoring guides, including clarifying item wording and providing scaffolding steps.

TIMSS 2011 Pilot Test

	Fourth Grade	Eighth Grade
Mathematics Constructed-response Items	18	22
Science Multiple-choice Items	9	24
Science Constructed-response Items	51	62
Total Items	78	108
Responses per Item (approx.)	50	25
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Number of Booklets	2	2
Number of Students (approx.)	100	50