TABLE 1

TIMSS Scores on Assessments of Mathematics and Science General Knowledge, Advanced Mathematics, and Physics

Nation	Average Mathematics Score	Average Science Score	Average Advanced Mathematics Score	Average Physics Score
(Australia)	522	527	525	518
(Austria)	518	520	436	435
(Canada)	519	532	509	485
(Cyprus)	446	448	518	494
Czech Republic	466	487	469	451
(Denmark)	547	509	522	534
(France)	523	487	557	466
(Germany)	495	497	465	522
Greece	---	---	513	486
Hungary	483	471	---	---
(Iceland)	534	549	---	---
(Italy)	476	475	474	---
(Latvia)	---	---	---	488
(Lithuania)	469	461	516	---
(Netherlands)	560	558	---	---
New Zealand	522	529	---	---
(Norway)	528	544	---	581
(Russian Federation)	471	481	542	545
(Slovenia)	512	517	475	523
(South Africa)	356	349	---	---
Sweden	552	559	512	573
Switzerland	540	523	533	488
(United States)	461	480	442	423
International Average	500	500	501	501

NOTE: Nations not meeting international sampling and other guidelines are shown in parentheses. Canada and France met the guidelines for the advanced mathematics assessment; France and Norway, for the physics assessment. A dash (---) indicates that the nation did not participate in that assessment.

SOURCE: Adapted from data presented in U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, NCES 98-049 (U.S. Government Printing Office, Washington, D.C., 1998), Figures 1, 5, 9, and 16.

TABLE 2

TIMSS SAMPLING DATA
Participation and Exclusion Rates

Nation	MATHEMATICS AND SCIENCE GENERAL KNOWLEDGE ASSESSMENT		ADVANCED MATHEMATICS ASSESSMENT		PHYSICS ASSESSMENT	
	Combined Participation Rates	Exclusion Rates	Combined Participation Rates	Exclusion Rates	Combined Participation Rates	Exclusion Rates
(Australia)	52%	6%	55%	no data	54%	no data
(Austria)	73%	18%	81%	18%	81%	18%
(Canada)	68%	9%	77%	no data	73%	no data
(Cyprus)	98%	22%	96%	22%	96%	22%
Czech Republic	92%	no data	92%	no data	92%	no data
(Denmark)	49%	2%	49%	no data	47%	no data
(France)	69%	1%	77%	no data	77%	no data
(Germany)	80%	11%	78%	11%	82%	11%
Greece	---	---	87%	no data	87%	no data
Hungary	98%	0%	---	---	---	---
(Iceland)	74%	0%	---	---	---	---
(Italy)	62%	30%	68%	30%	---	---
(Latvia)	---	---	---	---	77%	50%
(Lithuania)	85%	16%	92%	16%	---	---
(Netherlands)	49%	22%	---	---	---	---
New Zealand	81%	0%	---	---	---	---
(Norway)	71%	4%	---	---	83%	no data
(Russian Federation)	90%	43%	96%	43%	95%	43%
(Slovenia)	42%	6%	42%	no data	43%	no data
(South Africa)	65%	0%	---	---	---	---
Sweden	82%	0%	89%	no data	89%	no data
Switzerland	85%	3%	87%	no data	87%	no data
(United States)	64%	4%	67%	no data	68%	no data

NOTE: The sampling plan established the following protocol for selecting schools and students to participate in the testing: (1) the sample was to be representative of at least 90% of students in the total population eligible for the study (that is, "exclusion rates" should be no greater than 10%); (2) the school participation rate without the use of replacement schools should be at least 50%; and (3) the combined participation rate (computed by multiplying the school and student rates after replacements) should be at least 75% or school and student participation rates each should be 85%. Nations not meeting international sampling and other guidelines are shown in parentheses. Canada and France met the guidelines for the advanced mathematics assessment; France and Norway, for the physics assessment. A dash (---) indicates that the nation did not participate in that assessment. "No data" indicates that the nation participated, but the TIMSS report did not provide data on combined participation rates or exclusion rates.

SOURCE: Adapted from data presented in U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, NCES 98-049 (U.S. Government Printing Office, Washington, D.C., 1998), Tables A1.1, A1.2, and A1.3.

TABLE 3

TIMSS Data on School Completion Rates, % of Age Cohort Taking Advanced Subjects, Age and Grade of Participating Students, and Differentiation in Programs

Nation	% 25-34-Year-Olds Completing Secondary Education	% Taking Advanced Assessments as Proportion of Age Cohort		Average Age of Participating Students	Grades of Participating Students	Extensive Differentiation in Programs for Students with Differing Abilities or Interests
		Advanced Mathematics	Physics			
(Australia)	57%	16%	13%	17.7	12	no
(Austria)	81%	33%	33%	19.1	10-14	yes
(Canada)	84%	16%	14%	18.6	12-14	no
(Cyprus)	no data	9%	9%	17.7	12	yes
Czech Republic	91%	11%	11%	17.8	10-13	yes
(Denmark)	69%	21%	3%	19.1	12	yes
(France)	86%	20%	20%	18.8	11-13	yes
(Germany)	89%	26%	8%	19.5	12-13	yes
Greece	no data	10%	10%	---	---	no data
Hungary	no data	---	---	17.5	10, 12	yes
(Iceland)	no data	---	---	21.2	12-14	yes
(Italy)	49%	14%	---	18.7	11-13	yes
(Latvia)	no data	---	3%	---	---	no data
(Lithuania)	no data	3%	---	18.1	12	yes
(Netherlands)	70%	---	---	18.5	11-12	yes
New Zealand	64%	---	---	17.6	11-12	no
(Norway)	88%	---	8%	19.5	12	yes
(Russian Federation)	no data	2%	2%	16.9	11	yes
(Slovenia)	no data	75%	39%	18.8	11-12	yes
(South Africa)	no data	---	---	20.1	12	no
Sweden	88%	16%	16%	18.9	11-12	yes
Switzerland	88%	14%	14%	19.8	11-13	yes
(United States)	87%	14%	14%	18.1	12	no
International Average	78%	19%	14%	18.7	---	

NOTE: Nations not meeting international sampling and other guidelines are shown in parentheses. Canada and France met the guidelines for the advanced mathematics assessment; France and Norway, for the physics assessment. A dash (---) indicates that the nation did not participate in that assessment. "No data" indicates that the nation participated, but the TIMSS report did not provide data on school completion rates or program differentiation.

SOURCE: Adapted from data presented in U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, NCES 98-049 (U.S. Government Printing Office, Washington, D.C., 1998), Tables A5.7, A5.12, A5.13, and A5.14.