

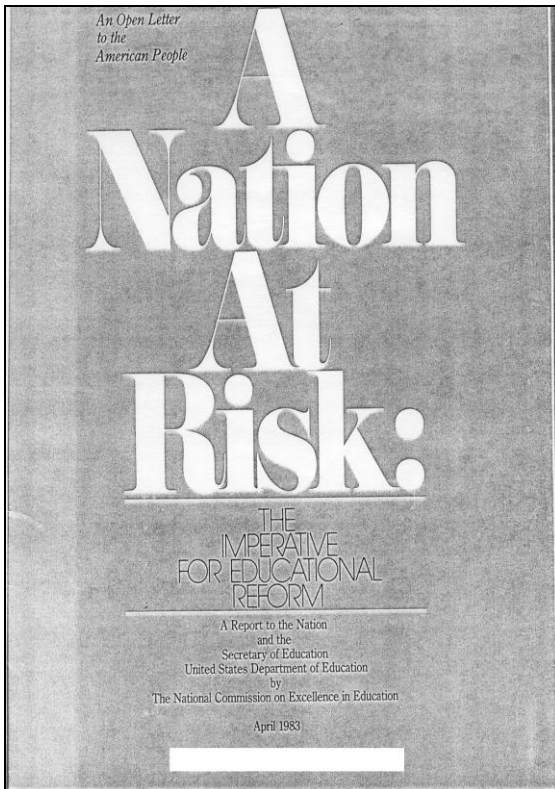
The National Education Goal Sets in 1983 for the Year 1995

A Nation At Risk: The Imperative For Educational Reform

published on April 26, 1983 (Cover Page Left)

Educating Americans For The 21st Century,

published on September 12, 1983 (Cover Page Right)



EDUCATING AMERICANS FOR THE 21st CENTURY:

A plan of action for improving mathematics, science and technology education for all American elementary and secondary students so that their achievement is the best in the world by 1995

A REPORT TO THE AMERICAN PEOPLE AND THE NATIONAL SCIENCE BOARD

THE NATIONAL SCIENCE BOARD COMMISSION ON PRECOLLEGE EDUCATION IN MATHEMATICS, SCIENCE AND TECHNOLOGY

Underlying every Commission recommendation is one basic objective:

THE IMPROVEMENT AND SUPPORT OF ELEMENTARY AND SECONDARY SCHOOL SYSTEMS THROUGHOUT AMERICA SO THAT, BY THE YEAR 1995, THEY WILL PROVIDE ALL THE NATION'S YOUTH WITH A LEVEL OF EDUCATION IN MATHEMATICS, SCIENCE AND TECHNOLOGY, AS MEASURED BY ACHIEVEMENT SCORES AND PARTICIPATION LEVELS (AS WELL AS OTHER NON-SUBJECTIVE CRITERIA), THAT IS NOT ONLY THE HIGHEST QUALITY ATTAINED ANYWHERE IN THE WORLD BUT ALSO REFLECTS THE PARTICULAR AND PECULIAR NEEDS OF OUR NATION.

Q: Has America Achieved the Goal Set for 1995?

For answer see

1997-- Third International Math and Science Achievement Tests (TIMSS)

Participated by **41 Countries**

Pursuing Excellence

A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context

**FIGURE 5:
NATIONAL AVERAGES IN MATHEMATICS CONTENT AREAS**

WHOLE NUMBERS	FRACTIONS AND PROPORTIONALITY	MEASUREMENT, ESTIMATION, AND NUMBER SENSE
NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.
NATION PERCENT CORRECT	NATION PERCENT CORRECT	NATION PERCENT CORRECT
KOREA 88	SINGAPORE 74	JAPAN 72
SINGAPORE 83	HONG KONG 66	KOREA 72
JAPAN 82	JAPAN 65	(NETHERLANDS) 70
HONG KONG 79	KOREA 65	(AUSTRIA) 69
(HUNGARY) 76	(NETHERLANDS) 60	HONG KONG 69
(NETHERLANDS) 75	IRELAND 58	CZECH REPUBLIC 68
CZECH REPUBLIC 75		SINGAPORE 67
(AUSTRIA) 74	NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.	(HUNGARY) 64
(SLOVENIA) 74	NATION PERCENT CORRECT	(SLOVENIA) 64
NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.	NATION PERCENT CORRECT	(LATVIA (LSS)) 60
NATION PERCENT CORRECT	CZECH REPUBLIC 53	(AUSTRALIA) 60
(ISRAEL) 71	(AUSTRIA) 51	NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.
■ UNITED STATES 71	(AUSTRALIA) 51	NATION PERCENT CORRECT
IRELAND 70	■ UNITED STATES 51	IRELAND 56
CANADA 68	(SLOVENIA) 50	NORWAY 56
(LATVIA (LSS)) 68	(HUNGARY) 49	CANADA 54
NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.	CYPRUS 48	(ISRAEL) 54
NATION PERCENT CORRECT	(ISRAEL) 48	SCOTLAND ° 53
(AUSTRALIA) 67	CANADA 48	■ UNITED STATES 53
CYPRUS 65	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.	ENGLAND ° 52
GREECE 62	NATION PERCENT CORRECT	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.
SCOTLAND ° 61	SCOTLAND ° 46	NATION PERCENT CORRECT
NORWAY 61	ENGLAND ° 45	PORTUGAL 49
ENGLAND ° 58	(LATVIA (LSS)) 44	NEW ZEALAND 49
(THAILAND) 58	(THAILAND) 44	GREECE 48
PORTUGAL 57	GREECE 42	CYPRUS 48
NEW ZEALAND 57	NEW ZEALAND 41	ICELAND 44
ICELAND 56	NORWAY 38	(THAILAND) 44
IRAN, ISLAMIC REPUBLIC 51	PORTUGAL 38	IRAN, ISLAMIC REPUBLIC 36
(LATVIA (LSS)) 51	ICELAND 36	(LATVIA (LSS)) 35
	IRAN, ISLAMIC REPUBLIC 32	
	(LATVIA (LSS)) 35	

Pursuing Excellence

A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context

**FIGURE 5 (CONTINUED):
NATIONAL AVERAGES IN MATHEMATICS CONTENT AREAS**

DATA REPRESENTATION, ANALYSIS, AND PROBABILITY	GEOMETRY	PATTERNS, RELATIONS, AND FUNCTIONS
NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY HIGHER THAN THE U.S.
NATION PERCENT CORRECT	NATION PERCENT CORRECT	NATION PERCENT CORRECT
SINGAPORE 81	HONG KONG 74	KOREA 83
KOREA 80	(AUSTRALIA) 74	JAPAN 76
JAPAN 79		SINGAPORE 76
		HONG KONG 73
NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.	NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.	NATIONS WITH AVERAGE SCORES NOT SIGNIFICANTLY DIFFERENT FROM THE U.S.
NATION PERCENT CORRECT	NATION PERCENT CORRECT	NATION PERCENT CORRECT
HONG KONG 76	ENGLAND * ^o 74	(HUNGARY) 69
(NETHERLANDS) 75	SCOTLAND ^o 72	(SLOVENIA) 68
■ UNITED STATES 73	JAPAN 72	CZECH REPUBLIC 67
	SINGAPORE 72	■ UNITED STATES 66
	KOREA 72	(LATVIA (LSS)) 65
	CANADA 72	(NETHERLANDS) 65
	(SLOVENIA) 72	(AUSTRIA) 64
	(NETHERLANDS) 71	(AUSTRALIA) 64
	■ UNITED STATES 71	IRELAND 64
	CZECH REPUBLIC 71	CANADA 62
NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.	NATIONS WITH AVERAGE SCORES SIGNIFICANTLY LOWER THAN THE U.S.
NATION PERCENT CORRECT	NATION PERCENT CORRECT	NATION PERCENT CORRECT
IRELAND 69	(AUSTRIA) 67	(ISRAEL) 60 ⁶⁰
CANADA 68	(LATVIA (LSS)) 67	SCOTLAND ^o 57
(AUSTRALIA) 67	IRELAND 66	CYPRUS 55
CZECH REPUBLIC 67	NEW ZEALAND 66	ENGLAND * ^o 55
(AUSTRIA) 66	(HUNGARY) 66 ⁶⁴	NEW ZEALAND 52
SCOTLAND ^o 66	ICELAND 63	NORWAY 50
ENGLAND * ^o 64	(ISRAEL) 62	(THAILAND) 50
(ISRAEL) 64	NORWAY 58	ICELAND 48
(SLOVENIA) 64 ⁶²	GREECE 53	PORTUGAL 47
NEW ZEALAND 61	(THAILAND) 53	GREECE 47
(HUNGARY) 60	CYPRUS 53	IRAN, ISLAMIC REPUBLIC 40
NORWAY 59	PORTUGAL 52	(KUWAIT) 33
ICELAND 58	IRAN, ISLAMIC REPUBLIC 42	
(THAILAND) 56	(KUWAIT) 36	
(LATVIA (LSS)) 54		
CYPRUS 52		
GREECE 50		
PORTUGAL 43		
(KUWAIT) 26		
IRAN, ISLAMIC REPUBLIC 23		

1997

Third International Math and Science Tests

Compare the U.S. Students' Achievement with that of Japan and Singapore



U.S. Department of Education - National Center for Education Statistics

PURSuing EXCELLENCE

A Study of U.S. Eighth-Grade Mathematics and Science Teaching, Learning, Curriculum, and Achievement in International Context

Chapter One: Achievement

CHAPTER 1: ACHIEVEMENT

In the past, the mathematics and science achievement of U.S. students has caused nation-wide cries for improvement. Various international studies of these subjects conducted over the past thirty years have shown that our eighth graders have not performed as well as we expect, in comparison to their peers in other nations.

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Another way to estimate distance between the U.S. and top scoring countries is to use the difference between our seventh and our eighth graders as a unit of measure. In mathematics, the difference between our seventh and eighth graders' scores was 24 points. The difference between the scores of eighth graders in the U.S. and in Singapore was 143 points. This means that the difference in eighth-grade mathematics performance between the two countries is almost six times the difference between U.S. seventh and eighth graders. The difference between U.S. and Japanese eighth graders' mathematics performance is about four times this difference.

HOW DO OUR BEST STUDENTS COMPARE WITH OTHERS' BEST?

Comparisons of averages tell us how typical students perform, but they do not tell us about the performance of our nation's best students - those who are likely to become the next generation of mathematicians, scientists, doctors, and engineers. **If an international talent search were to select the top ten percent of all students in the 41 TIMSS countries combined, what percentage of U.S. students would be included?**

In mathematics, 5 percent of U.S. eighth graders would be selected. High-scoring nations would have more of their students represented in the "international top ten percent." Figure 4 shows that 45 percent of all Singaporean students and 32 percent of all Japanese students would be chosen in the international talent search in mathematics. **In science, 13 percent of U.S. students would be selected,** in comparison to 31 percent of Singaporean students and 18 percent of Japanese students.

If the international talent search were to lower its standards considerably to choose the top half of all students in the 41 TIMSS countries, 94 percent of eighth graders in Singapore and 83 percent in Japan would be selected in mathematics, compared to 45 percent of eighth graders in the U.S. In science, 82 percent of the students in Singapore and 71 percent of students in Japan would be selected, compared to 55 percent in the U.S.