TIMSS

TIMSS 2011 International Mathematics and Science Report

Michael O. Martin, Ina V.S. Mullis, Pierre Foy, and Graham J. Stanco

TIMSS & PIRLS International Study Center
Lynch School of Education, Boston College

Copyright © 2012 International Association for the Evaluation of Educational Achievement (IEA)

T M 2011 International Results in Science

Michael O. Martin, Ina V.S. Mullis, Pierre Foy, and Gabrielle M. Stanco

Publisher: TIMSS I : S International Study Center,
Lynch School of Education, Boston College
Chestnut Hill, MA, USA
and
International Association for the Evaluation of Educational Achievement (IEA)
IEA Secretariat
Amsterdam, the Netherlands

Library of Congress Catalog Card Number: 2012 710
IS -10: 1- 7 -
IS -17: -1- 7 - -
IS /EA : - 0- -1 -

For more information about M contact:
TIMSS I : S International Study Center
Lynch School of Education
Boston College
Chestnut Hill, MA 02
United States

tel: +1- 1 - 2-1 00
fax: +1- 1 - 2-1207
e-mail: timss@bc.edu
timss.bc.edu

Boston College is an equal opportunity, a rmative action employer.
Printed and bound in the United States.

Chapter 1. 33

International Student Achievement in Science

Science Achievement Across Countries 34

E 1.1 Differences in Average Fourth-Grade Science Achievement 38

E 1.2 Differences in Average Eighth-Grade Science Achievement 40

E 1.3 Long-Term Changes in Average Fourth-Grade Science Achievement 42

E 1.4 Long-Term Changes in Average Eighth-Grade Science Achievement 44

Trends in Science Achievement 48

E 1.5 Average Fourth-Grade Science Achievement 50

E 1.6 Average Eighth-Grade Science Achievement 54

E 1.7 Average Science Achievement, 1995 to 2011 . . . . .

E h h Gr e e f he I SS 2011 I er l Be hm rk Se e . 110
E 2.17 L 2011 B A , E. . . . 111
E 2.18 B A ,
E. . . . 114
E 2.19 B
A , E. . . . 116
E 2.20 D L 2011 B (400)
A , E. . . . 119
E 2.21 B E 1, E. . . . 120
E 2.22 B E 2, E. . . . 121
E 2.23 D L 2011 B (475)
A , E. . . . 123
E 2.24 B E 3, E. . . . 124
E 2.25 B E 4, E. . . . 125
E 2.26 D L 2011 B (550)
A , E. . . . 127
E 2.27 B E 5, E. . . . 129
E 2.28 B E 6, E. . . . 130
E 2.29 B E 7, E. . . . 131
E 2.30 D L 2011 A B (625)
A , E. . . . 133
E 2.31 A B E 8, E. . . . 136
E 2.32 A B E 9, E. . . . 137
E 2.33 A B E 10, E. . . . 138

Chapter 3. 141

International Student Achievement in the TIMSS Science Content and Cognitive Domains

el e A h e emen y Se e e C en D m 142
E 3.1 A C D , F 144
E 3.2 A C D , E. . . . 146
el e A h e emen y Se e e C e D m 149
E 3.3 A C D , F 150
E 3.4 A C D , E. . . . 152
re A h e emen Se e e C en D m 154
E 3.5 A C D , F 156
E 3.6 A C D , E. . . . 158
re A h e emen Se e e C e D m 160
E 3.7 A C D , F 162
E 3.8 A C D , E. . . . 164
A h e emen he Se e e C en C e D m y Ge er. . . 166
E 3.9 A C D , F 168

Chapter 4. 177
Home Environment Support for Science Achievement

E 8.15 E , E 374
E 8.16 D B L
C , E 376
E 8.17 E , F 380
E 8.18 E , E 382
S 385
E 8.19
F

A C.4 , F 453
A C.5 , E. 454
A C.6 , F 455
A C.7 , E. 457
A C.8 ( ), F 459
A C.9 ( ), E. 461
A C.10 , F 463
A C.11 , E. . . . . .