

# PIRLS and TIMSS 2011 in Northern Ireland: reading, mathematics and science



Linda Sturman, Liz Twist,  
Bethan Burge, Juliet Sizmur,  
Shelley Bartlett, Rose Cook,  
Laura Lynn and Harriet Weaving



Department of  
**Education**  
[www.deni.gov.uk](http://www.deni.gov.uk)  
AN ROINN  
**Oideachais**  
MÁNYSTRIE O  
**Lear**

**How to cite this publication:**

Sturman, L., Twist, L., Burge, B., Sizmur, J., Bartlett, S., Cook, R., Lynn, L. and Weaving, H. (2012). *PIRLS and TIMSS 2011 in Northern Ireland: Reading, Mathematics and Science*. Slough: NFER

Published in December 2012 by the  
National Foundation for Educational Research,  
The Mere, Upton Park, Slough, Berkshire SL1 2DQ.

[www.nfer.ac.uk](http://www.nfer.ac.uk)  
[www.nfer.ac.uk/pirls](http://www.nfer.ac.uk/pirls)  
[www.nfer.ac.uk/timss](http://www.nfer.ac.uk/timss)

© National Foundation for Educational Research 2012  
Registered Charity No. 313392

ISBN 978 1 908666 45 1

# Contents

	PIRLS and TIMSS 2011 in Northern Ireland: introduction	1
<b>1</b>	Attainment in TIMSS and PIRLS 2011 in Northern Ireland	3
<b>2</b>	Attainment in PIRLS and TIMSS 2011 by gender	17
<b>3</b>	Distribution of attainment in PIRLS and TIMSS 20112	23
<b>4</b>	Attainment by content and skill in Northern Ireland	33
<b>5</b>	Pupils' engagement	43
<b>6</b>	School resources	71
<b>7</b>	The school learning environment	85
<b>8</b>	The curriculum and learning activities	119
<b>9</b>	Characteristics of pupils and their homes	137
	Appendix A Progress in International Reading Literacy Study (PIRLS) and Trends in International Mathematics and Science Study (TIMSS) 2011: Overview	147
	References	153

# Acknowledgements

This survey could not have taken place without the cooperation of the pupils, the teachers and the principals in the participating schools. We are very grateful for their support.

The authors would also like to thank the following colleagues for their invaluable work during the PIRLS and TIMSS 2011 survey and in the production of this report:

- Mark Bailey and other colleagues in the NFER's Research Data Services who undertook all the contact with the sampled schools.
- Kerstin Modrow, Ed Wallis, Jass Athwal and other staff of the NFER's Data Capture team and Database Production Group who organised all the data capture and cleaning.
- Graham Ruddock, Naomi Rowe, Christine Williams, Hanna Vappula, Louise Cooper, Newman Burdett, Sarah Maughan, Rebecca Wheeler, Kath Wilkinson, Bernadetta Brzyska and other colleagues from the NFER Research Department who helped with various aspects of the preparation and development of the project, marking of test booklets and/or preparation of the national report.
- Pat Bhullar, Margaret Parfitt, Rachel Trout and other colleagues from the NFER's Research Department for their administrative work on the project.
- Ben Styles, Simon Rutt and other colleagues from the NFER's Centre for Statistics who contributed to sampling and preparation for the national report.
- Jonathan Greenwood and others from the NFER's Design team who prepared materials and designed participants' thank-you certificates.
- Nick Ward and colleagues from the NFER's Print Shop.
- Helen Crawley, Claire Wanless, Jane Parrack, and other colleagues in the NFER's Sales Marketing and Impact team who prepared this report for publication and dissemination.
- Gill Cooper for design work on the report.

We are also grateful to the PIRLS and TIMSS 2011 marking teams for their enthusiasm and hard work.

PIRLS /TIMSS is a collaborative project with a number of international partners. We would like to thank the staff of:

- Statistics Canada for their help and expertise in sampling issues
- The IEA Data Processing Center in Hamburg for their work in preparing and checking data files
- The International Study Center at Boston College and the IEA Directorate in Amsterdam for their support throughout the PIRLS and TIMSS studies.

PIRLS and TIMSS 2011 in Northern Ireland was commissioned by the Department of Education. We would like to acknowledge the support and guidance of Patricia Wyers and colleagues at the DE.

# PIRLS and TIMSS 2011 in Northern Ireland: introduction

## Report outline

This report summarises Year 6 (Y6) pupils' attainment in the PIRLS and TIMSS surveys of 2011 in Northern Ireland and explores the context of that attainment.

PIRLS is an international comparison study of reading at ages 9-10 and TIMSS is a parallel study of mathematics and science at ages 9-10 (and ages 13-14, although Northern Ireland participated only at the younger age range). PIRLS has a five-yearly cycle and TIMSS a four-yearly cycle. 2011 was the first year in which the cycles of the two studies coincided, allowing the opportunity to assess the same pupils at ages 9-10 in all three subject domains. Northern Ireland took part in PIRLS and TIMSS for the first time in the 2011 cycle.

## What PIRLS assesses at ages 9-10

PIRLS identifies and assesses two purposes for reading: reading for literary experience and reading to acquire and use information. Within each of the two reading purposes, the PIRLS items measure four comprehension processes:

- Focus on and retrieve explicitly stated information
- Make straightforward inferences
- Interpret and integrate ideas and information
- Examine and evaluate content, language and textual elements.

## What TIMSS assesses at ages 9-10

TIMSS assesses content domains (mathematics and science) and cognitive domains (knowing, applying and reasoning) in both subjects. The content domains assessed at ages 9-10 are:

- Mathematics – Number, Geometric Shapes and Measures, Data Display
- Science – Life Science, Physical Science, Earth Science.

In science, the area of study related to the classification and properties of materials is included in the Physical Science content domain.

## **Countries with which Northern Ireland will mainly be compared in this report**

The report compares performance in Northern Ireland with that of the five PISA countries which outperformed Northern Ireland in all three subject domains in the most recent PISA cycle, PISA 2009, as well as with England and the Republic of Ireland. PISA is an international comparison study of reading, mathematics and scientific literacy at age 15.

Of the 45 countries participating in PIRLS and 50 countries in TIMSS at ages 9-10, therefore, the main comparator countries are:

- Australia
- Finland
- Hong Kong
- New Zealand
- Singapore
- England
- Republic of Ireland.

These will be referenced throughout the report as applicable.