



# PIRLS & TIMSS 2011

Results for Ireland

Educational Research Centre

## About TIMSS and PIRLS

**TIMSS** (Trends in International Mathematics and Science Study) and **PIRLS** (Progress in International Reading Literacy Study) are international studies of the reading, maths and science skills of primary school pupils. First conducted in 1995, TIMSS takes place every four years. PIRLS, which was first conducted in 2001, takes place every five years.

In 2011, the cycles for the studies coincided, and 67 countries took part in one or both studies. Ireland was one of 34 countries that took part in both at Fourth class level. Combined, the two studies form the world's largest educational assessment at primary school level.

## What do they measure?

The PIRLS assessment is based around reading purposes and processes – or, why and how pupils read. Pupils encountered Literary and Informational texts, and were assessed on two types of reading process skills (Retrieving and Straightforward Inferencing, and Interpreting, Integrating and Evaluating).

The TIMSS assessment is based around content areas and cognitive processes. Content areas for science are Life Science, Physical Science, and Earth Science. The maths content areas are Number, Geometric Shapes and Measures, and Data Display. The same three cognitive processes – Knowing, Applying, and Reasoning – were assessed in maths and science.

## PIRLS and TIMSS in Ireland

During March and April 2011, approximately 4,500 pupils in 151 (randomly selected) schools in Ireland completed tests of reading, maths and science. As well as the tests, the pupils, their teachers, parents and principals completed contextual questionnaires.

TIMSS and PIRLS are managed in Ireland by the Educational Research Centre, on behalf of the Department of Education and Skills. The studies are supported by groups such as the National Parents Council-Primary, the IPPN and the INTO.

## Results for Reading

Irish pupils' reading score of 552 was well above the scale centrepiece of 500. Only five countries (Hong Kong, the Russian Federation, Finland, Singapore and Northern Ireland) obtained mean scores that were statistically significantly higher than Ireland's mean score. The Irish mean was significantly higher than that of 31 other countries – including Germany, Sweden, Australia and New Zealand.

Girls significantly outperformed boys in Ireland and in almost every country. In Ireland, the gender gap was largest for Literary texts, on which Irish girls performed particularly well.

## International Benchmarks

As well as scale scores, PIRLS and TIMSS report performance in terms of benchmarked skills. For each of reading, maths and science, pupils are categorised as at one of four International Benchmarks (Advanced, High, Intermediate, or Low). Each International Benchmark has an associated set of skills that pupils at that Benchmark should be able to demonstrate. For example, pupils whose reading score falls under the Advanced International Benchmark can integrate ideas and appreciate an overall theme in a text, whereas those at the Low Benchmark can only locate and retrieve an explicitly stated detail in the text.

**Reading:** A relatively high percentage of Irish pupils reached the Advanced Benchmark for reading (16%, compared to the international median of 8%). More than half of Irish pupils reached the High International Benchmark and only 3% failed to at least reach the Low Benchmark (international median: 5%).

## Results for Maths

The Irish mean score of 527 on the TIMSS maths assessment was significantly above the study centrepiece of 500, and was higher than that of 33 countries. Thirteen countries (including Singapore, Northern Ireland, Finland and England) achieved higher mean scores. In Ireland, and for the overall international average, boys and girls performed at a similar level.

Compared to Ireland's overall mean score, Irish pupils displayed relative strengths on Number (content) and Knowing (cognitive process), and relative weaknesses on Geometric Shapes and Measures and Data Display (content areas) and Reasoning (cognitive process).

**Maths:** More pupils reached the Advanced Benchmark in Ireland than internationally (9% vs 4%). However, many more pupils reached this benchmark in Singapore, Korea, and Hong Kong (37-43%), and in Northern Ireland and England (18-24%). In Ireland 6% failed to reach the Low International Benchmark, compared to the international median of 10%.

## Results for Science

Irish pupils' science score of 516 was significantly above the science scale centrepiece of 500. Singapore, Finland, the US, and England were among 17 countries that achieved a significantly higher score than Ireland. Ireland's score was higher than that of 24 countries (including Spain, New Zealand and Norway). In Ireland, and for the overall study average, boys and girls obtained similar mean scores.

Irish pupils performed equally well on the Life science, Physical science and Earth Science scales. As with maths, Irish pupils demonstrated a relative weakness on scientific Reasoning, when compared to their performance on the overall science scale.

**Science:** In Ireland, 7% of pupils reached the Advanced Benchmark. While higher than the international median (5%) this was considerably lower than in high-performing countries such as Singapore and Korea (29-33%). Eight percent of pupils in Ireland (and at the international median) failed to reach the Low International Benchmark for science.

## Trends

Prior to 2011, Ireland had never taken part in PIRLS and had taken part in TIMSS in 1995 only. Thus, we have no trend information for reading, but we have some for performance on maths and science.

There was no significant change in the overall mean score of Irish pupils on maths or science between 1995 and 2011. However, there was evidence of improved performance on the maths assessment among low-achieving pupils. While the percentages reaching both the Advanced and High Benchmarks are similar in 1995 and 2011, significantly more Irish pupils reached the lowest International Benchmark in 2011 (94%, up from 91% in 1995).

## Forthcoming Reports

In December 2012, the Educational Research Centre published an initial report on the studies (*PIRLS and TIMSS 2011: Reading, Mathematics and Science Outcomes for Ireland*). Publication coincided with the release of the main international reports on PIRLS and TIMSS.

A second set of Irish reports on PIRLS and TIMSS will be published in 2013. As well as more detail on achievement data, these reports will draw on the wealth of contextual information obtained from questionnaires completed by pupils, parents and teachers.

They will compare Irish pupils and their home and school environment to their counterparts in other countries. Also, items used in the tests will be shown, with information on Irish pupils' performance relative to pupils in other countries.

## More Information

The initial Irish report is available for free download or purchase from [www.erc.ie](http://www.erc.ie). The second set of reports will also be available from early 2013. International reports are available at <http://timss.bc.edu>. More information about the studies is available from [www.erc.ie/pirlstimss](http://www.erc.ie/pirlstimss).

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