



PROGRAMME FOR INTERNATIONAL  
STUDENT ASSESSMENT (PISA)  
RESULTS FROM PISA 2012

## ITALY

### Key findings

- Mean performance in mathematics, reading and science is below the OECD average, but Italy is one of the countries that improved most markedly in both mathematics and science performance, particularly between 2006 and 2009.
- Between 2003 and 2012 between-school variation in performance remained stable and comparatively high while there was a decline in within-school variation in mathematics performance.
- While the proportion of immigrant students in Italy (7.5%) is below the OECD average (12%), it grew rapidly between 2003 and 2012.
- More than one in three students (35%) reported that they had skipped at least one class and nearly one in two students (48%) reported that they had skipped a day of school or more in the two weeks before the PISA test. Skipping classes or days of school is associated with lower performance.

### Student performance in mathematics, reading and science

Italy performs below the average for OECD countries in mathematics (ranks between 30 and 35), below the average in reading (ranks between 26 and 34) and below the average in science (ranks between 28 and 35) among the 65 countries and economies that participated in the 2012 PISA assessment of 15-year-olds.

### Mathematics

**Mean mathematics performance among 15-year-olds in Italy is below the OECD average, but Italy is one of the countries with the largest improvement in mathematics performance.**

Students in Italy score 485 points, on average, in mathematics – below the OECD average and comparable with Latvia, Lithuania, Norway, Portugal, the Russian Federation, the Slovak Republic, Spain and the United States. Italy's mean performance improved between 2003 and 2012 by an average of 20 score points, moving substantially closer to the OECD average. Most of the improvement in mathematics performance was observed between 2006 and 2009. Italy is one of the fastest improving countries in mathematics performance among those countries that participated in every PISA assessment since 2003.

- Boys outperform girls in mathematics by an average of 18 points, a larger gap than observed across OECD countries (11 points), on average. This gender gap has remained stable since 2003.

**Between 2003 and 2012 the share of low performers decreased by 7 percentage points and the share of top performers increased by 2.9 percentage points.**

- Some 25% of students in Italy score below Level 2 in mathematics; the OECD average is 23%. At best, these students can extract relevant information from a single source and can use basic algorithms, formulae, procedures or conventions to solve problems involving whole numbers. By contrast, only 4% of students in Shanghai-China, the highest-achieving PISA participant, perform at this level, as do 12% of students in the strong-performing neighbour, Switzerland.
- Some 10% of students in Italy are top performers (the OECD average is 13%), meaning that they attain Level 5 or 6 in mathematics. These students can develop and work with models for complex situations, and work strategically using broad, well-developed thinking and reasoning skills. By comparison, 55% of students in Shanghai-China are top performers as are 21% of students in Switzerland.
- Between 2003 and 2012 the percentage of students in Italy who failed to reach the baseline level of proficiency in PISA declined by 7.3 percentage points while the percentage of top performers increased by 2.9 percentage points.

**Students in Italy perform particularly poorly when asked to formulate situations mathematically, but they are better at applying and evaluating mathematical outcomes.**

- Students in Italy tend to do better when the assessment covers their ability to *interpret mathematical problems and situations* (which requires students to apply and evaluate mathematical outcomes) and less well when the assessment covers their *capacity to formulate situations mathematically*. Students in Italy score 498 points, on average, on the *interpret mathematical problems and situations* subscale (in line with the OECD average), but only 475 points, on average, on the *formulate situations mathematically* subscale – well below the OECD average.

**PISA reveals large regional differences in mathematics performance.**

- In some Italian regions, 15-year-old students are among the best-performing students in the world in mathematics. Specifically, students in Trento, Friuli Venezia Giulia and Veneto score well above the OECD average at 524, 523 and 523 score points, respectively.

## Science

**Italy is one of the countries with the largest improvement in science performance between 2006 and 2012. Mean science performance among 15-year-olds in Italy however remains below the OECD average.**

- Students in Italy score 494 points in science, on average – below the OECD average, and comparable to the performance of students in Croatia, Denmark, France, Hungary, Lithuania, Luxembourg, Norway, Portugal, Spain and the United States.
- Italy's mean performance improved by 18 score points between 2006 and 2012, with most of the improvement occurring between 2006 and 2009.

- The share of low-performing students in science (18.7%) is larger than the OECD average but it shrank by 6.6 percentage points between 2006 and 2012. At best, these students can present scientific explanations that are obvious and follow explicitly from given evidence.
- The share of top-performing students in science (6.1%) is below the OECD average and increased by 1.5 percentage points between 2006 and 2012. Top-performing students can identify, explain and apply scientific knowledge and knowledge about science in a variety of complex life situations.
- Girls and boys perform at similar levels in science.

## Reading

### Mean reading performance among 15-year-olds in Italy is below the OECD average and remained stable between 2000 and 2012.

- Students in Italy score 490 points in reading, on average – below the OECD average and comparable with Austria, Croatia, the Czech Republic, Denmark, Hungary, Israel, Latvia, Luxembourg, Portugal, Spain, Sweden and the United States.
- Between 2000 and 2012 there was no change in Italy’s reading performance; however, after a decline in performance between 2000 and 2003, performance improved to reach the levels observed in 2000.
- Students in the regions of Veneto, Trento and Lombardia attain 521 score points in reading, well above the OECD average and Italy’s mean score.
- Girls outperform boys in reading by an average of 39 score points, a gender gap that is similar to the OECD average gender gap of 38 points. Across OECD countries the gender gap in reading performance widened by 6 score points between 2000 and 2012, while in Italy it remained stable over the period. Some 19.5% of students in Italy (a proportion similar to that observed across OECD countries) perform below the baseline level of proficiency in reading, meaning that, at best, they can recognise the main theme or author’s purpose in a text about a familiar topic and make a simple connection between information in the text and everyday knowledge. Meanwhile 6.7% of students are top performers in reading, compared with 8.4% of students across OECD countries. These students can handle texts that are unfamiliar in either form or content and can conduct fine-grained analyses of texts.

## Resources, policies and practices

Between 2001 and 2010, expenditure per student grew in most OECD countries. But during the same period, cumulative expenditure on education per student from the age of 6 to 15 shrank by 8% in Italy, with the reduction concentrated towards the very end of that period. Decreases in expenditure during the period were observed only in Italy, Iceland and Mexico.

After a certain threshold of cumulative expenditure is reached (roughly USD 50 000), the relationship between spending per student and performance is no longer apparent. For example, Italy and Singapore both spend roughly USD 85 000 on education per student between the ages of 6 and 15, but while Italy scored 485 points in mathematics in PISA 2012, Singapore scored 573 points. Italy and Norway on the other hand have similar levels of performance (485 and 489 points respectively) but very different levels of expenditures (the expenditure in Norway was roughly USD 124 000).

### Few schools in Italy are responsible for allocating resources.

On average across OECD countries, around 70% of students or more attend schools whose principals reported that only national and/or regional education authorities have considerable responsibility for establishing teachers' starting salaries and determining teachers' salary increases.

- Some 93% of students in Italy attend such schools.

In contrast, across OECD countries, school principals and/or teachers have more responsibility for selecting and hiring teachers, dismissing teachers, formulating the school budget, and deciding on budget allocations within the school.

- In Italy schools have little autonomy over those matters too: on average, across OECD countries only 24% students attend schools whose principals reported that only regional or national education authorities have responsibility for selecting teachers for hire; In Italy this figure was 86%. Moreover 78% of students in Italy (compared with 34% across OECD countries) attend schools whose principals reported that only regional or national education authorities are responsible for firing teachers.

### Pre-primary education makes a difference later on.

The percentage of students who report not having attended pre-primary school was 4% in Italy in 2012, compared with an OECD average of 7%. Across OECD countries enrolment in pre-primary education increased between 2003 and 2012, while in Italy it remained stable. In Italy, as in most other countries and economies, disadvantaged students are over-represented among students who reported that they had not attended pre-primary school for more than one year; and students who did not attend pre-primary education are at an increasing disadvantage compared to their peers who did.

- In Italy as in the Czech Republic, Finland, Greece, Iceland, Luxembourg, the Slovak Republic, Spain and Thailand, the difference in mathematics performance between those 15-year-olds who had attended pre-primary school and those who hadn't widened by more than 25 points between 2003 and 2012.

### A high-cost of grade repetition

In Italy 17% of students reported having repeated a grade at least once, against an OECD average of 12%. Between 2003 and 2012 the proportion of students who reported having repeated a grade at least once increased by 2 percentage points while on average, across OECD countries it declined, particularly in some of the countries with very high levels of grade repetition. For example, France had repetition rates of 39% in 2003, however this proportion declined significantly between 2003 and 2012 and was 28% in 2012. Among students of equal performance in mathematics, socio-economically disadvantaged students are more likely to having repeated a grade than advantaged students. Requiring that students repeat grades implies some cost, not only the expense of providing an additional year of education but also the cost to society in delaying that student's entry into the labour market by at least one year. In Italy the cost of grade repetition represents 6.7% of the annual national expenditure on primary- and secondary-school education – or USD 47 174 per repeater.

### Using student assessments to improve the quality of education

Since 2003, the proportion of students in Italy who attend schools that use student assessments as a means of accountability grew significantly.

- In 2003, 33% of students were in schools whose principals reported that they use student assessments to compare their school's performance with that of other schools in their

district or with schools across Italy; in 2012, 65% of students attended such schools. In 2003, 69% of students in Italy attended schools whose principals reported that they use student assessments to monitor the progress of the school from year to year; in 2012, 82% of students attended such schools. And in 2003, 84% of students attended schools whose principals reported that they use student assessments to identify aspects of instruction or of the curriculum that could be improved; in 2012, 92% of students in Italy attended such schools.

By contrast, relatively small proportions of students in Italy attend schools that use student assessments to judge teachers' effectiveness, to compare their school with other schools or that track achievement data over time.

- Only 30% of students in Italy, on average, attend schools that use student assessments to judge teachers' effectiveness; across OECD countries, 50% of students are in such schools. Moreover only 37% of students in Italy are in schools that use student assessments to compare the school while across OECD countries 53% of students are in such schools.
- Only 30% of students in Italy attend schools where an administrative authority tracks achievement data over time. This is the second smallest proportion – behind that observed in Japan – across all OECD countries.

Seeking written feedback from students is associated with better performance and greater equity.

- In Italy, only 40% of students are in schools whose principal reported that the school seeks written feedback from students regarding lessons, teachers or resources – well below the OECD average of 61%.

## Context for student achievement

GDP per capita and spending per student are in line with the OECD average (GDP per capita in Italy is USD 32 110 against an OECD average of USD 33 732 and spending per student is USD 84 416 against an OECD average of USD 83 382). In Italy only 17% of 35-44 year-olds have a tertiary qualification against an OECD average of 34%: this means that 15-year-old students tend to have less educated parents than is the case elsewhere. Italy witnessed major changes in the student population, with an increase of 5 percentage points in the proportion of students with an immigrant background between 2003 and 2012. In Italy 18.4% of students have a very low socio-economic status while on average, across OECD countries this proportion is 15.4%. Many students in Italy are not engaged with school and arrive late, skip classes and days of school thus losing valuable learning opportunities. Socio-economically disadvantaged students are particularly likely to display low levels of engagement.

## Giving every student the chance to succeed

### Italy improved its performance without sacrificing equity in education.

Australia, Canada, Estonia, Finland, Hong Kong-China, Japan, Korea, Liechtenstein and Macao-China achieve high levels of performance and equity in education outcomes. Across OECD countries, 15% of the variation in student performance in mathematics is attributed to differences in students' socio-economic status.

- Italy shows above-OECD-average equity in education outcomes, with 10% of the variation in student performance in mathematics attributable to differences in students' socio-economic status.

Across OECD countries, a more socio-economically advantaged student scores 39 points higher in mathematics – the equivalent of nearly one year of schooling – than a less-advantaged student.



- In Italy, a more socio-economically advantaged student scores 30 points higher in mathematics than a less-advantaged student.

Of the 39 countries and economies that participated in both PISA 2003 and 2012, Mexico, Turkey and Germany improved both their mathematics performance and their levels of equity in education during the period.

- In Italy performance improved while equity remained stable. The improvement in mathematics performance is observed among all socio-economic groups: disadvantaged students improved by 27 score-points and advantaged students by 17 score points.

**Some 6.5% of students in Italy can be considered resilient: they beat socio-economic disadvantage and performing at the highest levels. This proportion grew by 1.7 percentage points between 2003 and 2012.**

- Across OECD countries, some 26% of disadvantaged students – the equivalent of 6.5% of the entire student population – are “resilient”. In Hong Kong-China, Korea, Macao-China, Shanghai-China, Singapore and Viet Nam, more than half of disadvantaged students, or 12.5% of the overall student population, are resilient.

**The proportion of students with an immigrant background grew rapidly between 2003 and 2012.**

The share of immigrant students in OECD countries increased from 9% in 2003 to 12% in 2012 while the difference in mathematics performance between immigrant and non-immigrant students shrank by 11 score points during the same period.

- In 2012 some 7.5% of students in Italy had an immigrant background. While this proportion is smaller than the OECD average, it had grown by 5 percentage points between 2003 and 2012, while the proportion of students without an immigrant background shrank by 5 percentage points during the period.
- Immigrant students in Italy score 48 points lower in mathematics than non-immigrant students, on average – well above the OECD average score difference of 34 points. As in most other countries, this difference reflects disparities in socio-economic status between different groups of students. However, even after taking socio-economic status into account, the performance gap that is associated with an immigrant background is still 32 points – far larger than the OECD average gap of 21 points.
- While mathematics performance among immigrant students in Italy did not change between 2003 and 2012, the performance of students without an immigrant background improved by 23 score points.
- New immigrants in Italy tend to be much more socio-economically disadvantaged than established immigrants. Language barriers are also an obstacle to learning. Among students with an immigrant background, those who speak Italian at home score 19 points higher than those who do not. However, when comparing students of similar socio-economic status, there is no performance gap observed among those who speak Italian at home and those who do not.

**Higher-performing countries tend to distribute educational resources more equitably between socio-economically advantaged and disadvantaged schools.**

- In Italy, schools with a more disadvantaged student population tend to have poorer educational resources than schools with a more advantaged student population.
- All schools in Italy suffer from poor physical infrastructure.
- Teacher shortage is less of a problem in Italy than in other countries.

- In Italy socio-economically disadvantaged schools, which tend to be ISCED level 2 schools, have smaller classes but fewer qualified teachers and teachers who are less likely to have attended a programme of professional development with a focus on mathematics during the previous three months.

### **Italy has above-average levels of between-school variation in performance and consequently below average levels of academic-inclusion.**

PISA reveals that Italy is a country with above-average between-school variation in mathematics performance. In Italy more than half (51.7%) of the overall variation in student performance lies between schools: this means that two students who attend different schools can be expected to perform at very different levels. The comparatively large between-school variation in performance to an extent reflects the large regional differences in performance which can be observed in Italy, although large between-school differences can be observed even when regional differences are considered. Between 2003 and 2012 between-school variation remained stable while within-school variation declined.

## **Student engagement, drive and self-beliefs**

### **The proportion of students who reported that they had skipped days of school is among the largest of all PISA participating countries and economies.**

- In Italy, 35% of students reported having skipped at least one class and 48% reported having skipped a day of school or more in the two weeks before the PISA test; only in Argentina, Jordan and Turkey did larger proportions of students report that they had skipped classes or days of school.
- Some 35% of students in Italy reported that they had arrived late for school at least once during the two weeks prior to the PISA test.

Lack of punctuality and truancy are negatively associated with student performance. On average across OECD countries, arriving late for school is associated with a 27-point lower score in mathematics, skipping classes with a 32-point lower score and skipping days of school with a 52-point lower score in mathematics.

- In Italy, skipping classes is associated with a 19-point lower score in mathematics and skipping days of schools is associated with a 33-point lower score, both below the OECD average. The performance disadvantage that is associated with arriving late for school is 31 score points, in line with the OECD average.

While 76% of students feel happy at school – slightly below the OECD average of 80% -- students in Italy are not satisfied with their schools.

- Only 32% of students reported that things are ideal in their school, compared to the OECD average of 61%, and 69% of students reported that they are satisfied with their school, compared to the OECD average of 78%.

As in most countries, students in Italy score higher in mathematics when the disciplinary climate is more conducive to learning, even after accounting for socio-economic status and other school differences.

- Between 2003 and 2012, the disciplinary climate in Italian schools improved significantly. In 2003, 39% of students reported that, in most or all lessons, the teacher has to wait a long time for students to quiet down; by 2012 that proportion had decreased to 31%. Similarly, in 2003, 42% of students reported that there is noise and disorder in most or all lessons. By 2012 this percentage had decreased to 36%. The disciplinary climate is worse, however, in schools where the average student comes from a more disadvantaged background.

### **Students who express greater drive and motivation to achieve perform at higher levels in mathematics.**

Students who feel they can handle a lot of information, are quick to understand things, seek explanations for things, can easily link facts together, and like to solve complex problems score 31 points higher in mathematics, on average, than those who are less open to problem solving. Among high achievers, the difference between the two groups of students is even greater – an average of 38 score points.

- In Italy, students reported below-average levels of openness to problem solving, and the difference in performance that is associated with students being open to problem solving (23 points) is below the OECD average; among high-achieving students, this difference amounts to 33 score points.

### **The proportion of students who reported high levels of mathematics anxiety is above the OECD average.**

Because students who are anxious about mathematics tend to avoid mathematics, mathematics courses and career paths that require mathematical skills, high levels of mathematics anxiety among students can have serious repercussions not only in the short term, on their performance in mathematics, but in the long term, as manifested in skills shortages in key sectors of the labour market.

- Across OECD countries, 30% of students reported that they feel helpless when doing mathematics problems; in Italy, 43% of students reported so. Similarly, in Italy 43% of students reported that they get very nervous doing mathematics problems (the OECD average is 31%).

On average across OECD countries, greater mathematics anxiety is associated with a 34-point lower score in mathematics – the equivalent of almost one year of school.

- In Italy, mathematics anxiety is associated with a 31-point lower score in mathematics.

### **Students in Italy are generally less confident about their ability to solve a set of pure and applied mathematics problems than the average across OECD countries.**

Unless students believe they are capable of solving mathematics problems they are unlikely to put in the effort needed to solve complex tasks. Mathematics self-efficacy, or the confidence students have in their ability to solve specific mathematics problems, is strongly associated with performance in mathematics: on average across OECD countries, mathematics self-efficacy is associated with a difference of 49 score points. In Italy this difference (47 score-points) is in line with the average.

### **PISA results show that even when girls perform as well as boys in mathematics, on average, they report less drive and motivation and more negative self-beliefs about their ability to learn mathematics.**

Across OECD countries girls who perform as well as boys in mathematics performance reported less openness to problem solving.

- In Italy, the gender gap in openness to problem solving between boys and girls with similar performance in mathematics is smaller than average.

On average across OECD countries, girls who perform as well as boys in mathematics also tended to report lower levels of mathematics self-efficacy and higher mathematics anxiety.

- In Italy, the gender gap in mathematics self-efficacy between boys and girls who perform similarly in mathematics is smaller than average, as is the gender gap in mathematics anxiety.



**Across most countries and economies, socio-economically disadvantaged students not only score lower in mathematics, they also are less engaged and have less drive, motivation and self-beliefs.**

Across OECD countries 78% of disadvantaged but 85% of advantaged students agreed or strongly agreed with the statement “I feel like I belong at school”.

- In Italy, 75% of disadvantaged students but 80% of advantaged students reported that they feel like they belong at school. Similarly, disadvantaged students tended to be more likely to report that they had arrived late and skipped classes or days of school during the two weeks prior to the PISA test.

On average across OECD countries, 37% of disadvantaged students and 33% of advantaged students reported that they had arrived late for school.

- In Italy socio-economic disparities in the proportion of students who had arrived late for school are similar to the OECD average: 37% of advantaged and 34% of disadvantaged students reported that they had arrived late for school. Similarly, on average across OECD countries, 18% of disadvantaged students and 12% of advantaged students reported having skipped at least one day of school in the two weeks before the PISA test. In Italy 54% of disadvantaged and 44% of advantaged students reported that they had played truant for at least a day in the two weeks prior to the PISA test.

## Snapshot of performance in mathematics, reading and science

Countries/economies with a mean performance/share of top-performers above the OECD average Countries/economies with a share of low-achievers below the OECD average
Countries/economies with a mean performance/share of low-achievers/share of top-performers not statistically significantly different from the OECD average
Countries/economies with a mean performance/share of top-performers below the OECD average Countries/economies with a share of low-achievers above the OECD average
Countries/economies in which the annualised change in performance is statistically significant are marked in bold.

	Mathematics				Reading		Science	
	Mean score in PISA 2012	Share of low-achievers (Below Level 2)	Share of top-performers in mathematics (Level 5 or 6)	Annualised change	Mean score in PISA 2012	Annualised change	Mean score in PISA 2012	Annualised change
OECD average	494	23.1	12.6	-0.3	496	0.3	501	0.5
Shanghai-China	613	3.8	55.4	4.2	570	4.6	580	1.8
Singapore	573	8.3	40.0	3.8	542	5.4	551	3.3
Hong Kong-China	561	8.5	33.7	1.3	545	2.3	555	2.1
Chinese Taipei	560	12.8	37.2	1.7	523	4.5	523	-1.5
Korea	554	9.1	30.9	1.1	536	0.9	538	2.6
Macao-China	538	10.8	24.3	1.0	509	0.8	521	1.6
Japan	536	11.1	23.7	0.4	538	1.5	547	2.6
Liechtenstein	535	14.1	24.8	0.3	516	1.3	525	0.4
Switzerland	531	12.4	21.4	0.6	509	1.0	515	0.6
Netherlands	523	14.8	19.3	-1.6	511	-0.1	522	-0.5
Estonia	521	10.5	14.6	0.9	516	2.4	541	1.5
Finland	519	12.3	15.3	-2.8	524	-1.7	545	-3.0
Canada	518	13.8	16.4	-1.4	523	-0.9	525	-1.5
Poland	518	14.4	16.7	2.6	518	2.8	526	4.6
Belgium	515	18.9	19.4	-1.6	509	0.1	505	-0.8
Germany	514	17.7	17.5	1.4	508	1.8	524	1.4
Viet Nam	511	14.2	13.3	m	508	m	528	m
Austria	506	18.7	14.3	0.0	490	-0.2	506	-0.8
Australia	504	19.7	14.8	-2.2	512	-1.4	521	-0.9
Ireland	501	16.9	10.7	-0.6	523	-0.9	522	2.3
Slovenia	501	20.1	13.7	-0.6	481	-2.2	514	-0.8
Denmark	500	16.8	10.0	-1.8	496	0.1	498	0.4
New Zealand	500	22.6	15.0	-2.5	512	-1.1	516	-2.5
Czech Republic	499	21.0	12.9	-2.5	493	-0.5	508	-1.0
France	495	22.4	12.9	-1.5	505	0.0	499	0.6
United Kingdom	494	21.8	11.8	-0.3	499	0.7	514	-0.1
Iceland	493	21.5	11.2	-2.2	483	-1.3	478	-2.0
Latvia	491	19.9	8.0	0.5	489	1.9	502	2.0
Luxembourg	490	24.3	11.2	-0.3	488	0.7	491	0.9
Norway	489	22.3	9.4	-0.3	504	0.1	495	1.3
Portugal	487	24.9	10.6	2.8	488	1.6	489	2.5
Italy	485	24.7	9.9	2.7	490	0.5	494	3.0
Spain	484	23.6	8.0	0.1	488	-0.3	496	1.3
Russian Federation	482	24.0	7.8	1.1	475	1.1	486	1.0
Slovak Republic	482	27.5	11.0	-1.4	463	-0.1	471	-2.7
United States	481	25.8	8.8	0.3	498	-0.3	497	1.4
Lithuania	479	26.0	8.1	-1.4	477	1.1	496	1.3
Sweden	478	27.1	8.0	-3.3	483	-2.8	485	-3.1
Hungary	477	28.1	9.3	-1.3	488	1.0	494	-1.6
Croatia	471	29.9	7.0	0.6	485	1.2	491	-0.3
Israel	466	33.5	9.4	4.2	486	3.7	470	2.8
Greece	453	35.7	3.9	1.1	477	0.5	467	-1.1
Serbia	449	38.9	4.6	2.2	446	7.6	445	1.5
Turkey	448	42.0	5.9	3.2	475	4.1	463	6.4
Romania	445	40.8	3.2	4.9	438	1.1	439	3.4
Cyprus <sup>1,2</sup>	440	42.0	3.7	m	449	m	438	m
Bulgaria	439	43.8	4.1	4.2	436	0.4	446	2.0
United Arab Emirates	434	46.3	3.5	m	442	m	448	m
Kazakhstan	432	45.2	0.9	9.0	393	0.8	425	8.1
Thailand	427	49.7	2.6	1.0	441	1.1	444	3.9
Chile	423	51.5	1.6	1.9	441	3.1	445	1.1
Malaysia	421	51.8	1.3	8.1	398	-7.8	420	-1.4
Mexico	413	54.7	0.6	3.1	424	1.1	415	0.9
Montenegro	410	56.6	1.0	1.7	422	5.0	410	-0.3
Uruguay	409	55.8	1.4	-1.4	411	-1.8	416	-2.1
Costa Rica	407	59.9	0.6	-1.2	441	-1.0	429	-0.6
Albania	394	60.7	0.8	5.6	394	4.1	397	2.2
Brazil	391	67.1	0.8	4.1	410	1.2	405	2.3
Argentina	388	66.5	0.3	1.2	396	-1.6	406	2.4
Tunisia	388	67.7	0.8	3.1	404	3.8	398	2.2
Jordan	386	68.6	0.6	0.2	399	-0.3	409	-2.1
Colombia	376	73.8	0.3	1.1	403	3.0	399	1.8
Qatar	376	69.6	2.0	9.2	388	12.0	384	5.4
Indonesia	375	75.7	0.3	0.7	396	2.3	382	-1.9
Peru	368	74.6	0.6	1.0	384	5.2	373	1.3

Countries and economies are ranked in descending order of the mathematics mean score in PISA 2012.

Source: OECD PISA 2012 database, Tables I.2.1a, I.2.1b, I.2.3a, I.2.3b, I.4.3a, I.4.3b, I.5.3a and I.5.3b.

1. Footnote by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

## What is PISA?

The Programme for International Student Assessment (PISA) is an ongoing triennial survey that assesses the extent to which 15-year-olds students near the end of compulsory education have acquired key knowledge and skills that are essential for full participation in modern societies. The assessment does not just ascertain whether students can reproduce knowledge; it also examines how well students can extrapolate from what they have learned and apply that knowledge in unfamiliar settings, both in and outside of school. This approach reflects the fact that modern economies reward individuals not for what they know, but for what they can do with what they know.

PISA offers insights for education policy and practice, and helps monitor trends in students' acquisition of knowledge and skills across countries and in different demographic subgroups within each country. The findings allow policy makers around the world to gauge the knowledge and skills of students in their own countries in comparison with those in other countries, set policy targets against measurable goals achieved by other education systems, and learn from policies and practices applied elsewhere.

### Key features of PISA 2012

#### The content

- The PISA 2012 survey focused on mathematics, with reading, science and problem-solving minor areas of assessment. For the first time, PISA 2012 also included an assessment of the financial literacy of young people, which was optional for countries.

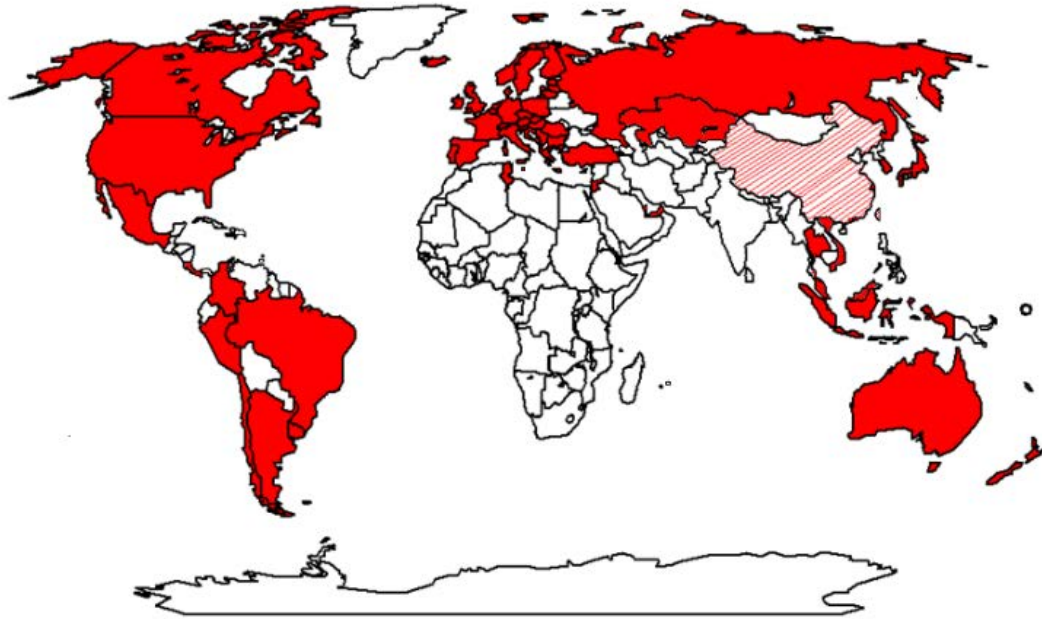
#### The students

- Around 510 000 students completed the assessment in 2012, representing about 28 million 15-year-olds in the schools of the 65 participating countries and economies.
- In Italy, 38 142 students in 1 186 schools completed the assessment in 2012. The participation rate after replacement is 93%.

#### The assessment

- Paper-based tests were used, with assessments lasting a total of two hours for each student. In a range of countries and economies, an additional 40 minutes were devoted to the computer-based assessment of mathematics, reading and problem solving.
- Test items were a mixture of multiple-choice items and questions requiring students to construct their own responses. The items were organised in groups based on a passage setting out a real-life situation. A total of about 390 minutes of test items were covered, with different students taking different combinations of test items.
- Students answered a background questionnaire, which took 30 minutes to complete, that sought information about themselves, their homes and their school and learning experiences. School principals were given a questionnaire, to complete in 30 minutes, that covered the school system and the learning environment. In some countries and economies, optional questionnaires were distributed to parents, who were asked to provide information on their perceptions of and involvement in their child's school, their support for learning in the home, and their child's career expectations, particularly in mathematics. Countries could choose two other optional questionnaires for students: one asked students about their familiarity with and use of information and communication technologies, and the second sought information about their education to date, including any interruptions in their schooling and whether and how they are preparing for a future career.

## Map of PISA 2012 countries and economies



### OECD countries

Australia	Japan
Austria	Korea
Belgium	Luxembourg
Canada	Mexico
Chile	Netherlands
Czech Republic	New Zealand
Denmark	Norway
Estonia	Poland
Finland	Portugal
France	Slovak Republic
Germany	Slovenia
Greece	Spain
Hungary	Sweden
Iceland	Switzerland
Ireland	Turkey
Israel	United Kingdom
Italy	United States

### Partner countries and economies in PISA 2012

Albania	Malaysia
Argentina	Montenegro
Brazil	Peru
Bulgaria	Qatar
Colombia	Romania
Costa Rica	Russian Federation
Croatia	Serbia
Cyprus <sup>1,2</sup>	Shanghai-China
Hong Kong-China	Singapore
Indonesia	Chinese Taipei
Jordan	Thailand
Kazakhstan	Tunisia
Latvia	United Arab Emirates
Liechtenstein	Uruguay
Lithuania	Vietnam
Macao-China	

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

**Contacts:**

Andreas Schleicher  
Advisor to the Secretary-General on Education Policy,  
Deputy Director for Education and Skills

**Email:** [Andreas.SCHLEICHER@oecd.org](mailto:Andreas.SCHLEICHER@oecd.org)

**Telephone:** +33 6 07 38 54 64

Francesca Borgonovi

Analyst

Directorate for Education and Skills

**Email:** [Francesca.BORGONIVI@oecd.org](mailto:Francesca.BORGONIVI@oecd.org)

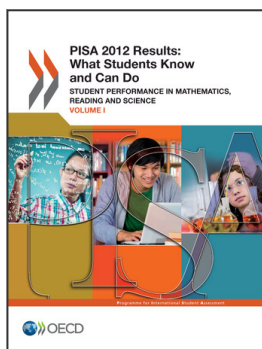
**Telephone:** +33 1 45 24 17 06

**For more information on  
the Programme for International Student Assessment  
and to access the full set of PISA 2012 results, visit:**

[www.oecd.org/pisa](http://www.oecd.org/pisa)







**From:**  
**PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014)**  
Student Performance in Mathematics, Reading and Science

**Access the complete publication at:**  
<https://doi.org/10.1787/9789264208780-en>

**Please cite this chapter as:**

OECD (2014), "Italy", in *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264208780-17-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).