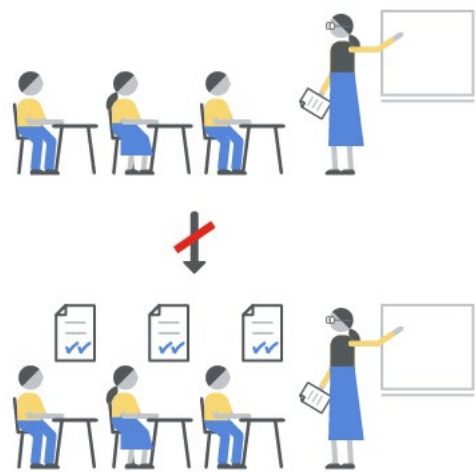
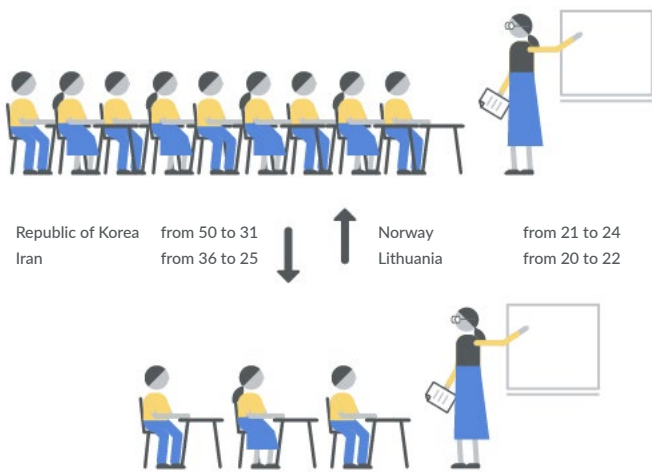


# TIMSS 2015 Key factors at school

Policymakers and parents worldwide prioritize class sizes and school safety.

## Class size

grade 8



Twenty years of TIMSS trends reveal education systems have varied class sizes for mathematics both upwards and downwards.

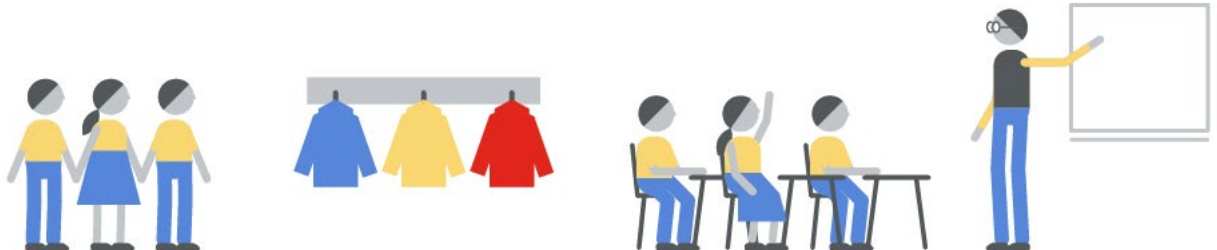
Over the last 20 years, while mathematics class sizes have generally been reduced, there is no evidence that smaller classes produce better results.

## School safety Safe and orderly schools create a positive learning environment grade 4 and 8

2007



2015



TIMSS 2015 reveals schools are perceived by students, teachers and parents as safer and more orderly now than they were eight years ago.

# TIMSS 2015 Teacher education

Countries have raised the requirements for becoming a teacher.

Teachers were more qualified in 2015 than they were in 2007

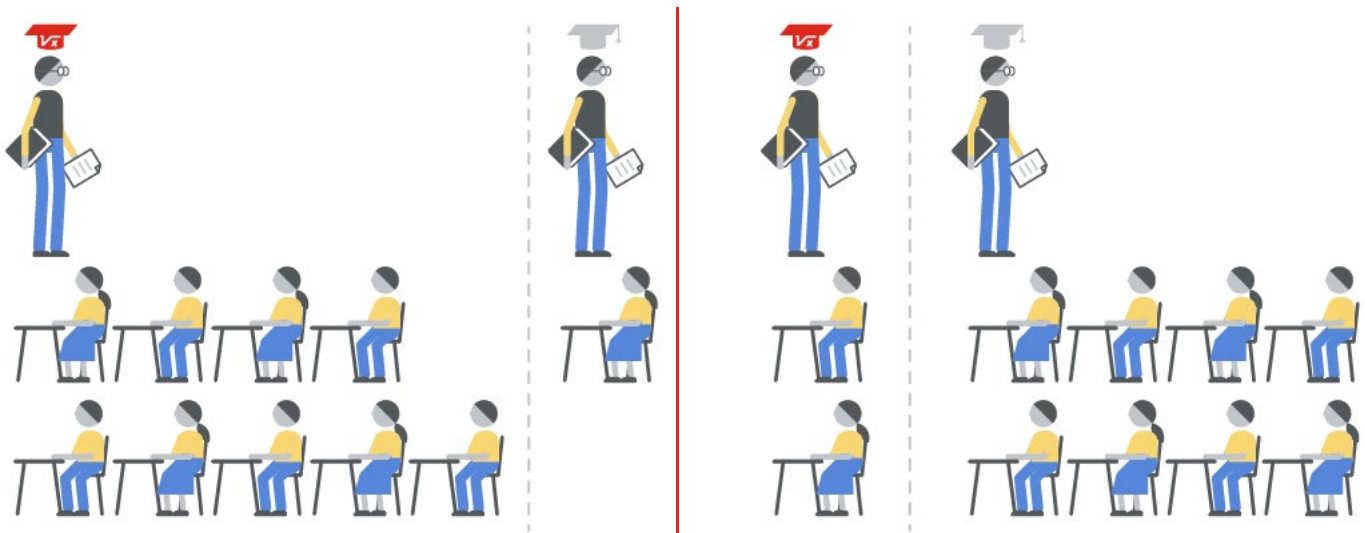
grade 4



TIMSS reveals that, in 2015, 85% of grade 4 teachers had a bachelor's degree or equivalent qualification; in 2007 the figure was 78%.

What teachers have studied varies from country to country

grade 8



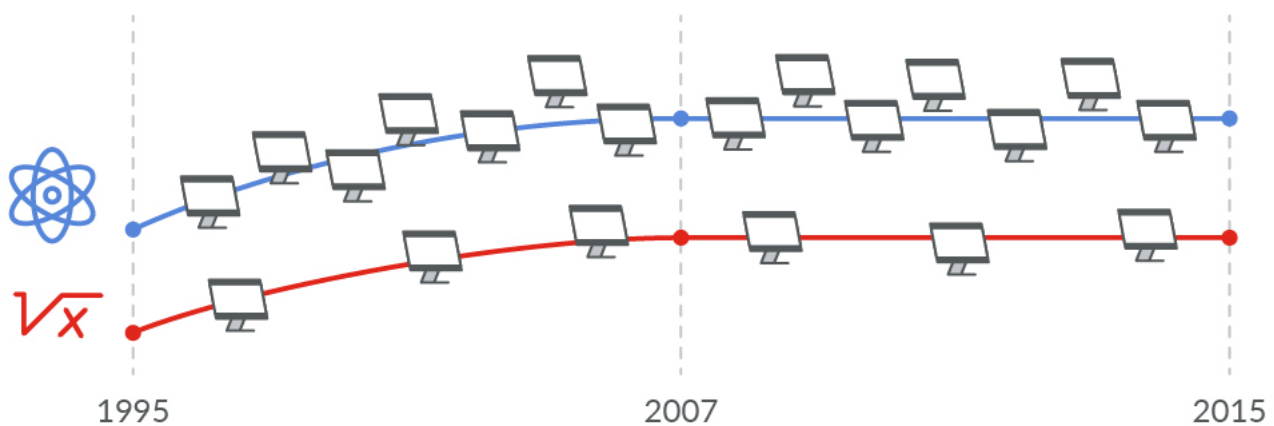
Nearly all grade 8 students in Russia are taught mathematics by a teacher who studied mathematics as their major subject.

Only 20% of grade 8 students in Hungary are taught mathematics by a teacher who studied mathematics as their major subject.

# TIMSS 2015 Use of technology

Use of technology has produced the biggest change in the last two decades, impacting both science and mathematics lessons.

## The use of computers in science and mathematics lessons



TIMSS reveals computers are used more frequently in science lessons than in mathematics lessons. There was significant growth in use between 1995 and 2007, but, between 2007 and 2015, classroom computer use for both subjects remained at essentially the same level.

## Students' computer use at home

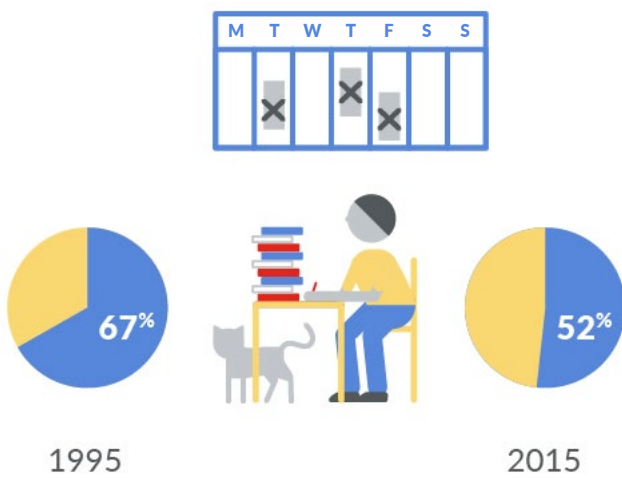


Students who regularly use a computer or tablet at home generally achieve better results in mathematics and science than students who don't.

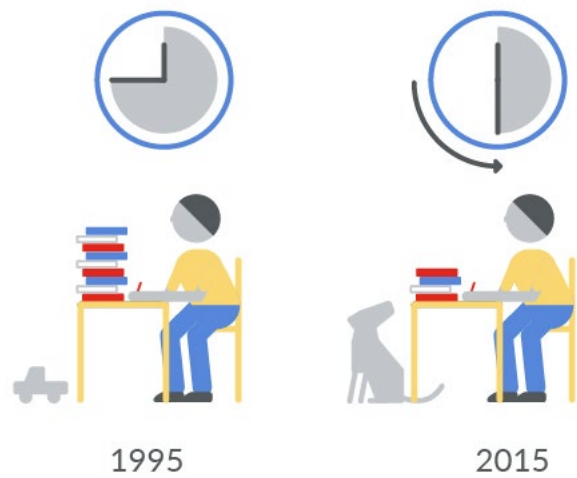
# TIMSS 2015 Teaching time and homework

Homework and teaching time are hot topics in education for both teachers and parents.

## Homework

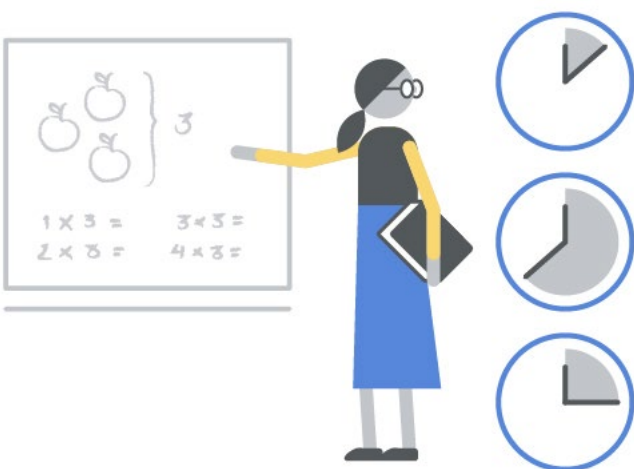


Teachers have reduced the frequency of homework given to students. In 1995, 67% of students said their teachers gave them homework three times a week; in 2015, only 52% of students said this.

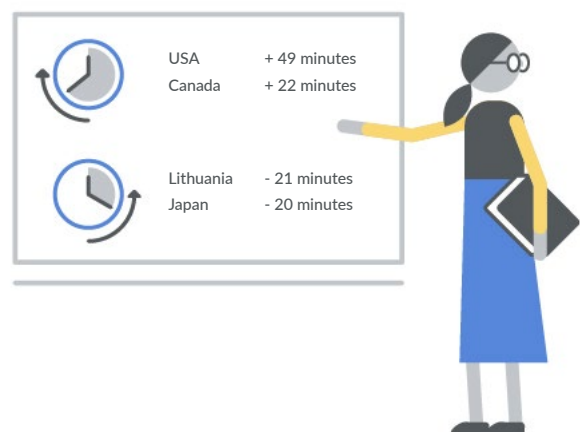


Teachers expect students to spend less time on homework. Between 1995 and 2015, the percentage of students getting less than 15 minutes of homework per day doubled.

## Teaching time



The amount of time devoted to teaching mathematics varies from country to country.



Twenty years of TIMSS trends reveal that some countries now spend more time on teaching mathematics, while other countries now spend less time on mathematics.

Combined time spent teaching mathematics and science appears stable over the past 20 years.



# TIMSS 2015 Gender gap

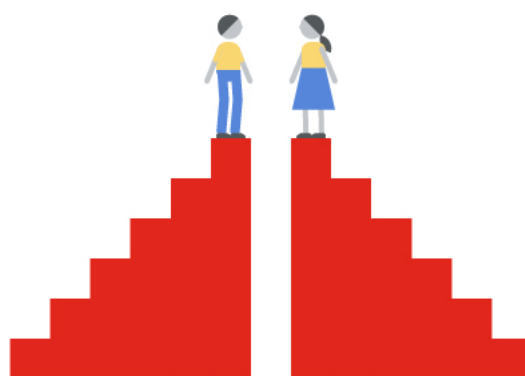
Gender equality in both mathematics and science performance is top of the list for researchers worldwide.

## Do girls or boys perform better in mathematics?

grade 4



1995



2015

Historically, boys have generally outperformed girls in mathematics and science. In 1995, grade 8 boys in most countries (15 of 26) performed better than girls.

The gender gap has narrowed since 1995. While in many systems performance has improved, girls have made the greatest gains at both grades.

## Closing the gender gap

grade 4

Islamic Republic of Iran  
Norway

Ireland  
New Zealand  
USA



1995



2015



1995



2015

Trends for grade 4 mathematics show that, in the Islamic Republic of Iran and Norway, boys outperformed girls in 1995, but girls outperformed boys in 2015, while in Ireland, New Zealand and the United States, girls outperformed boys in 1995 and boys outperformed girls in 2015.

grade 4 and 8



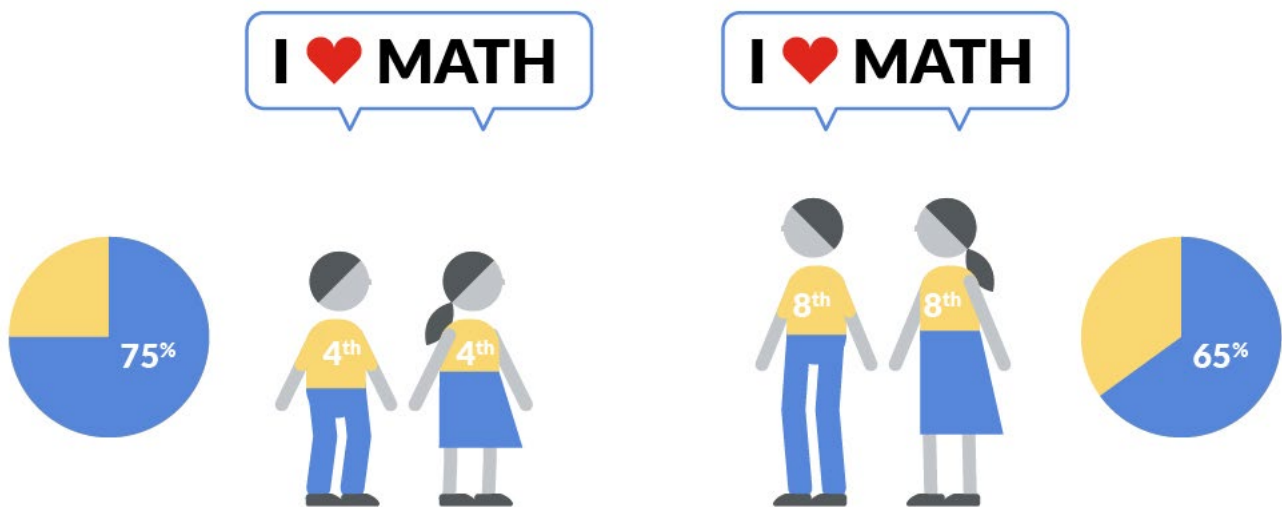
Twenty years of TIMSS trends show that overall, at both grade 4 and grade 8, the gender gap is closing.

# TIMSS 2015 Students' feelings toward mathematics

Children should feel self-confident and enjoy studying a subject.

## Enjoyment

grade 4 and 8



While at both grade 4 and grade 8 most students like mathematics, TIMSS 2015 reveals that 75% of grade 4 students liked mathematics, as opposed to 65% of grade 8 students.

## Self-confidence



Most students report that they usually do well in mathematics, and, in twenty years of TIMSS cycles, less than 17% of students have disagreed with the statement 'I usually do well in mathematics'.