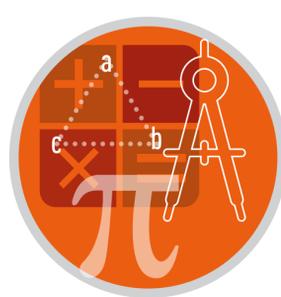


EQUATIONS AND INEQUALITIES: MAKING MATHEMATICS ACCESSIBLE TO ALL

Solving problems using mathematics is more important than ever...

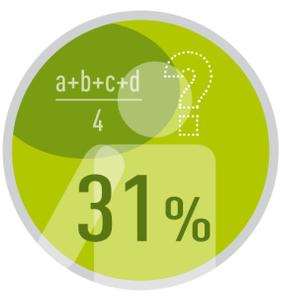


On average, 38% of adults across OECD countries use or calculate fractions, decimals or percentages at work.



Adults with high numeracy skills are more likely to be employed, earn high wages and enjoy good health.

... However, students aren't familiar with basic mathematics concepts and they rarely practice applying their knowledge to real-world problems.



On average, 31% of students across OECD countries have never heard the concept of arithmetic mean



And only 21% of students are exposed to real-world problems requiring reasoning, such as interpreting trends in a chart.

Exposure to mathematics counts for performance...



Students who are more frequently exposed to formal mathematics tasks, such as equations, perform 73 points higher in PISA – equivalent to almost two years of schooling – than students who aren't.

and inequalities in access to maths content are linked to inequalities in performance.

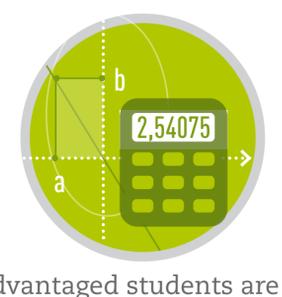


Socio-economically advantaged students are 24 percentage points more likely to understand the concept of linear equations than disadvantaged students.



19% of the performance gap between advantaged and disadvantaged students is related to familiarity with mathematics.

Disadvantaged students are being deprived of the opportunity to learn useful maths concepts, and they lack confidence.



Disadvantaged students are more likely to attend programmes where they are exposed to less-challenging maths content,



And they are less likely to be exposed to teaching practices that stimulate reasoning (such as applying what they have learnt to new contexts), so that...



they are 72% less likely to answer correctly a complex task requiring mathematics modelling ...



...and half of them believe that they are not good at mathematics (compared with one in three advantaged students).

How to make mathematics accessible to all

- **Increase** focus and coherence of mathematics curricula
- **Reduce** the impact of tracking and ability grouping
- **Help** teachers teach mixed-ability classes
- **Design** tasks that are engaging for all and develop problem-solving skills