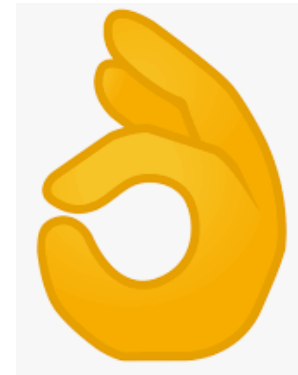
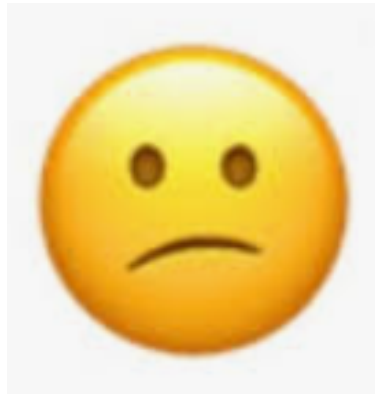
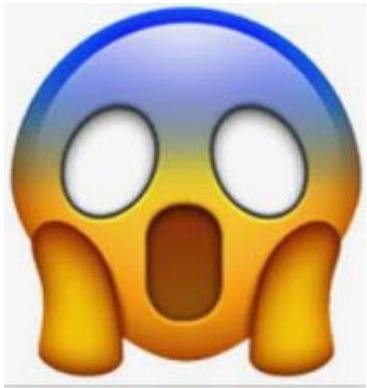


Welcome to the Numeracy session.

Please have your phones out, ready to take part in some polls.

The first question is how do you feel about numeracy?



How do you feel about Numeracy?

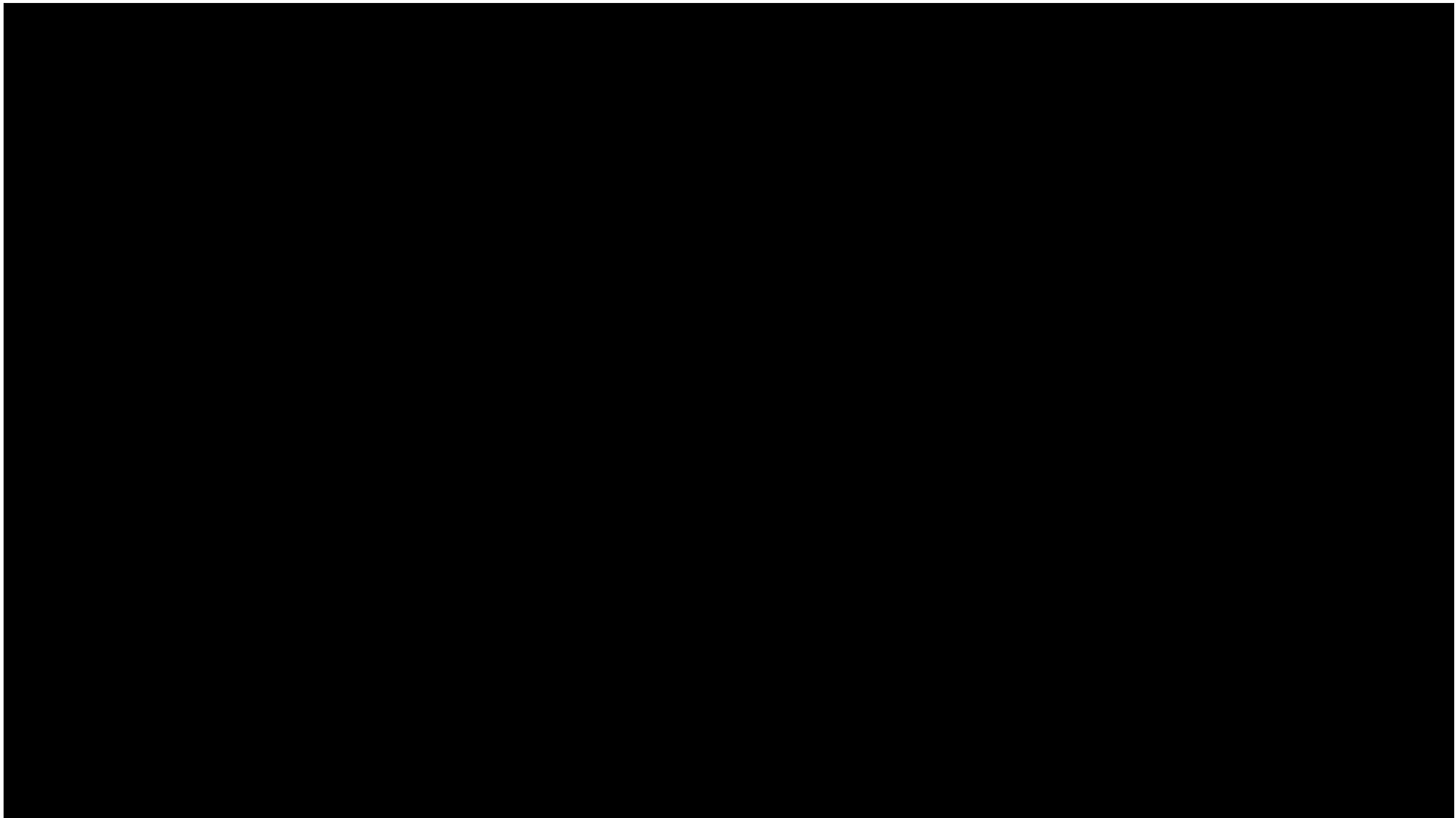


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 Mentimeter

What is numeracy?

Waiting for answers



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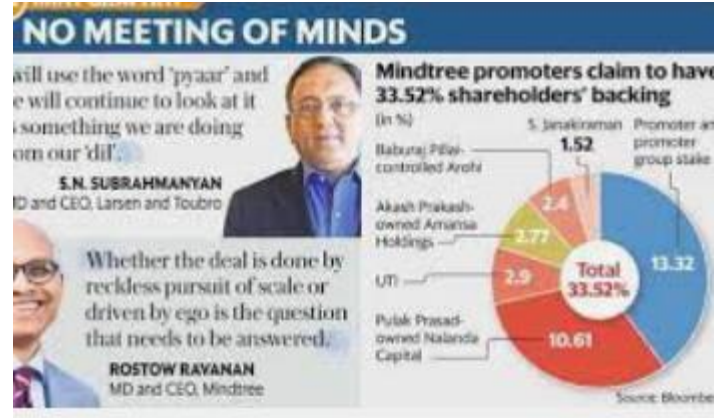
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✕

12:53 Platform 8
 Cambridge
 Calling at: Page 1 of 1
 Finsbury Park
 Stevenage
 Hitchin
 Letchworth
 Baldock
 Royston
 & Cambridge.



What is numeracy?





Developing number sense



Exploring patterns and relationships



Using proportional reasoning



Understanding and using geometric properties and spatial reasoning



Understanding, estimating, and using measurement



Exploring chance and data

While much of the teaching of concepts and skills to support numeracy happens in the mathematics learning area, it is strengthened as students take part in activities that connect their learning in the mathematics classroom within the context of other curriculum areas.

Mathematics = knowledge, skills and mathematical ideas

Numeracy = connection of mathematics with an individual's personal and work lives.

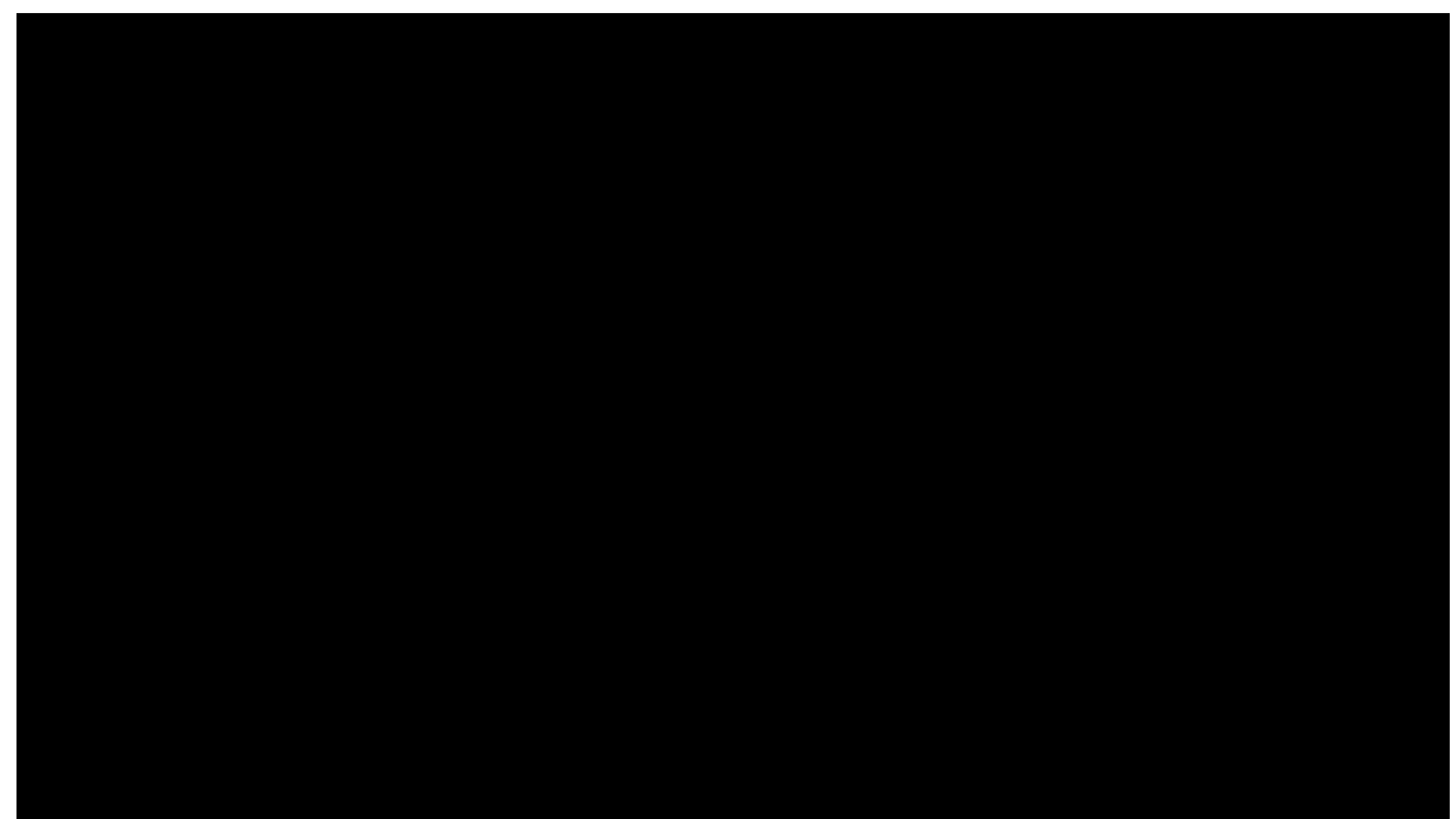
Why is numeracy important?

"Good numeracy is the best protection against unemployment, low wages and poor health."

Andreas Schleicher

coordinator of the OECD Programme for International Student Assessment and the OECD Indicators of Education Systems programme.





“

One in four people would be deterred from applying for a job if it listed using numbers and data as a requirement.

National Numeracy (2019)¹⁸

”

‘For someone who has math anxiety, the anticipation of doing math prompts a similar brain reaction as when they experience pain — say, burning one’s hand on a hot stove’

Sian Beilock – cognitive scientist and President of Barnard College

36%

of 15-24-year-olds

in the UK feel anxious about maths ⁵



1 in 10

eight to 13-year-olds
in Britain suffer from
maths anxiety ⁴



1 in 5

parents suffer from
arithmophobia –
a fear of numbers ⁸

8⁷6³
5¹2

Maths anxiety

in numbers

1 in 4

parents don't feel able to
teach their children basic
addition and subtraction
without a calculator ⁹



Women are more
than twice as anxious
as men about using
maths and numbers ⁷



only 26%

of undergraduate
students have the numerical
skills and understanding
necessary for daily life and work ⁶



40%
of parents

wouldn't be able to show
their children how to split a
restaurant bill with friends ¹⁰



Maths Anxiety

- Maths anxiety is associated with poor maths performance and the two could form a feedback loop
Pupils with maths anxiety may avoid maths tasks and experience cognitive disruption, which could form a feedback loop with poor maths performance.
- Maths anxiety may be both mental and emotional.
- Maths anxiety appears to affect a significant proportion of school and university students at all ages, as well as adults; girls report it more than boys.
- Maths anxiety affects working memory; addressing the anxiety and providing strategies to control it may be effective.
- Parents who experience maths anxiety may induce it in their children.
- Promoting a growth mindset of mathematics learning, using the Growth Zone model, and encourage students to demonstrate resilience when tackling a maths problem.

As a school body we need a consistent approach to support all students in developing their numeracy.

So what can you do to improve students' numeracy?

- Be positive about Maths and Numeracy
- Encourage students to persevere and be resilient
- Communicate and demonstrate to students when and how you use numeracy in your daily lives.
- If students need to solve number problems
 - Support them to solve
 - Explore different methods
 - Don't reach immediately for a calculator
- Praise student achievements in Maths.



Our Impact



Our evidence

We care about the evidence and build systems that make a difference



1st double-blind randomised controlled trial

Sparx Maths Homework conducted the **first ever double-blind randomised controlled trial** for an education technology product.

[View the report](#)



Students made

83%

more progress with just 15 minutes of practice every week

Students using Sparx Maths Homework made **83% more progress with just 15 minutes** of practice (in comparison to those who did no homework). For each further 15 minutes of practice they made 67% more progress.

[View the report](#)



1 hour of Sparx Maths a week significantly improves grades

External research conducted by RAND Europe and Cambridge University found that using Sparx Maths for **1 hour** a week significantly improves grades.

[View the report](#)

Promotes mastery

Develops every single student's understanding of maths concepts through personalised retrieval practice.



Improves grades

Increases student outcomes, and so increases life chances, through an evidence-based programme that works.



Instills practice culture

Builds a powerful practice culture and evidences effective progression beyond the classroom, through engaged, confident and motivated students.



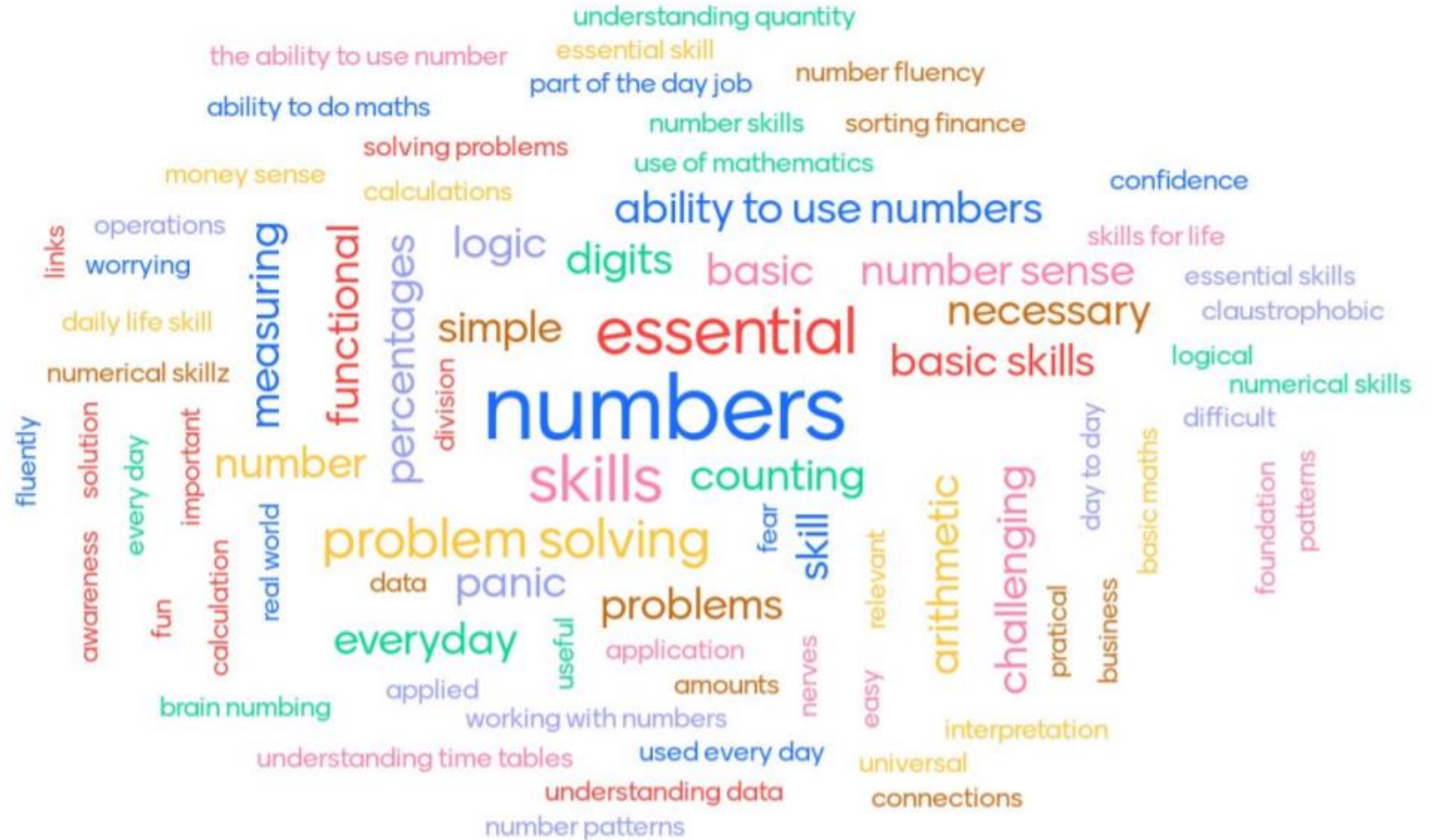
How parents' can support their child with Sparx

- ❖ Provide a quiet space for student to complete their homework.
 - ❖ Homework club is available every lunchtime and after school Mon-Thurs
 - ❖ Sparx Maths homework help club is run every Mon lunchtime in Rm 46
- ❖ Read the emails from Sparx; praise and engage with your child's homework completion.
- ❖ Understand the importance of regular practice and reiterate this to your child.
- ❖ Remember that homework is **personalised to your child's attainment level and every question has a video** to provide extra support so encourage resilience and perseverance when attempting the questions.

How parents' can support their child with Sparx

- ❖ **100% completion is important in allowing your child to make progress** and preventing gaps in their learning. Completing their homework each week also allows Sparx to learn about their working speeds and adapt future homework for them.
- ❖ **Bookwork Checks are** important in encouraging students to write down their method. If students are recording work in their book, they will find passing bookwork checks easy and they will see them less often. Also, these allow the teacher to see easily where the student's misconception has arisen.
- ❖ Understand that students are given a week to complete their homework. It can be done in one go or in small chunks but **early completion is always recommended** so they get help from the teacher before the deadline.

What is numeracy?



Chris Humphries, founding Chair of National Numeracy, talking to the BBC said

**“It is simply inexcusable for anyone to say
‘I can’t do Maths.’”**

