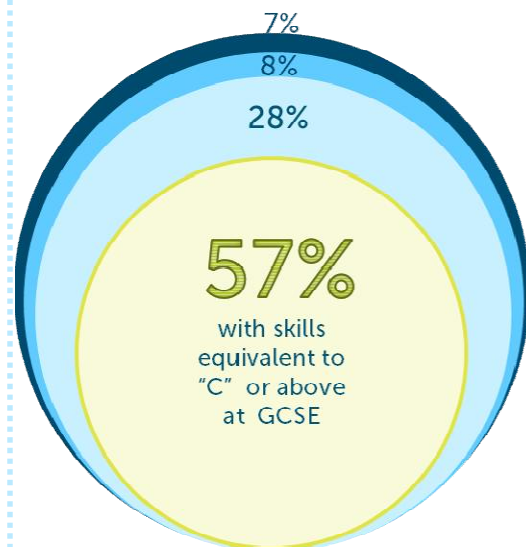


National Numeracy overview

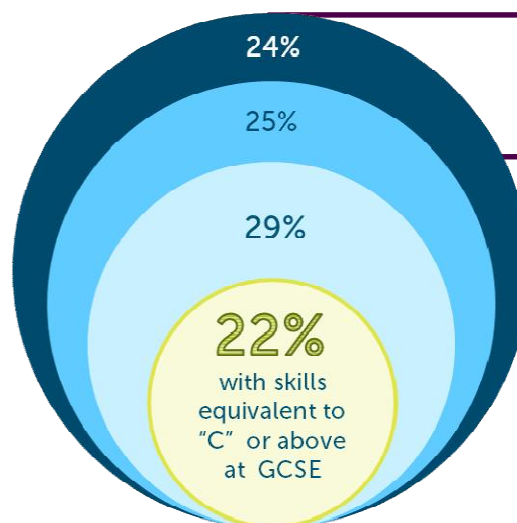
January 2015

The landscape: England

Adult Literacy



Adult Numeracy



17 million adults

(49% working age population) at levels expected of children at primary school

Below Entry Level 3: Level expected at age 9

Entry Level 3: Level expected at age 11

Level 1: Level expected at age 14

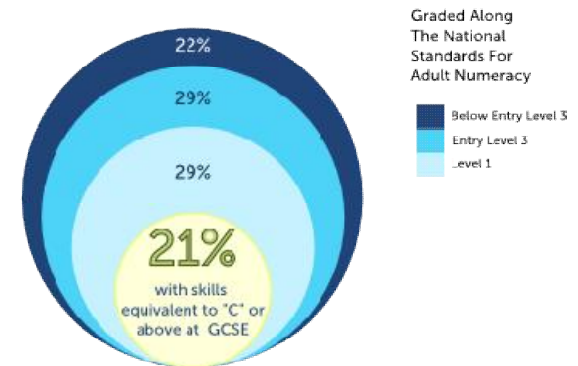
Source: Department for Business Innovation and Skills. 2012. "The 2011 Skills for Life Survey: A Survey of Literacy, Numeracy and ICT Levels in England."

78% of adults in England are working below L2 (A*-C at GCSE)

The landscape: the UK

Across the UK c. **3/4** of the adult population are working at a level below the minimum expected standard of school leavers

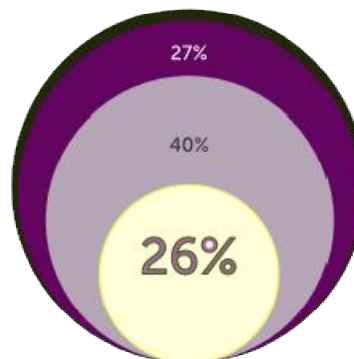
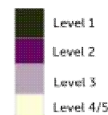
Wales
2010



Source: Welsh Government Social Research. 2010. "National Survey of Adult Skills in Wales."

Scotland
2009

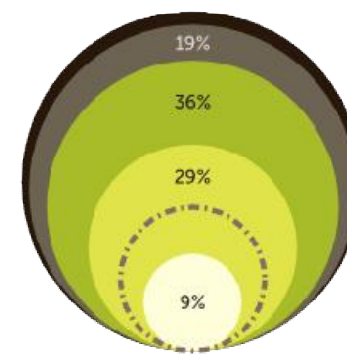
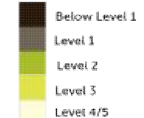
Graded Along a variant of the IALS 1996 standards



Source: St Clair, Ralph, Lyn Tett, and Kathy MacLachlan. 2010. "Scottish Survey of Adult Literacies 2009: Report of Findings." <http://eprints.hud.ac.uk/13550>.

Northern Ireland
PIAAC 2013

Graded Along The OECD International Standards

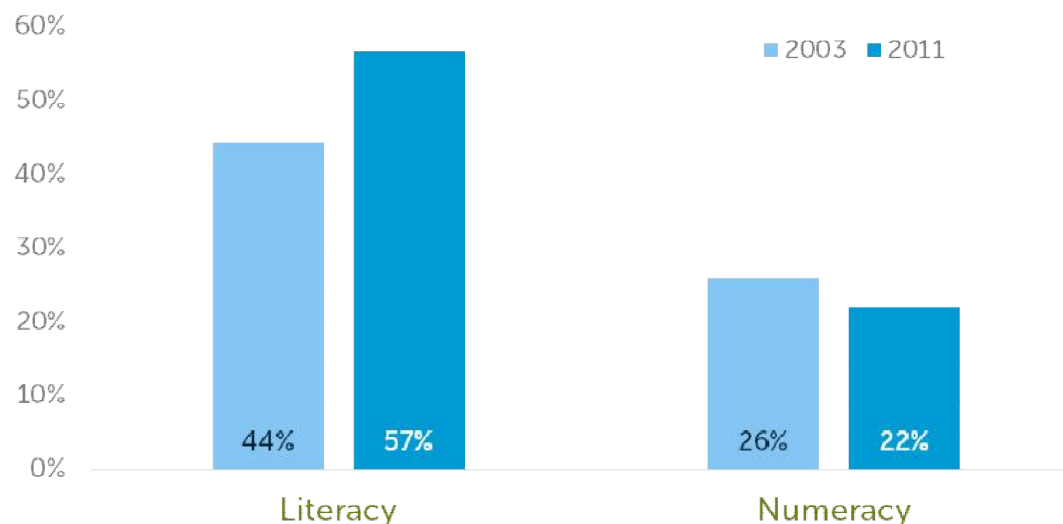


rough approximate to GCSE "C" grade equivalent

Source: Wheeler, R., Burge, B., Sewell, J., Sizmur, J., Worth, J. and Williams, J. (2013). The International Survey of Adult Skills 2012: Adult Literacy, Numeracy and Problem Solving Skills in Northern Ireland. Belfast: DELNI.

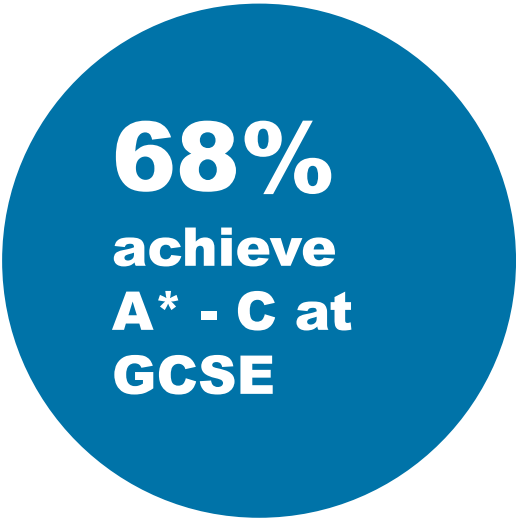
Literacy levels have improved, numeracy levels have declined...

Adults with Skills Equivalent to 'C' or Above at
GCSE in England



Source: Department for Business Innovation and Skills. 2012. "The 2011 Skills for Life Survey: A Survey of Literacy, Numeracy and ICT Levels in England."

Disconnect between GCSE A*-C and numeracy levels of 16-24 year olds



68%
achieve
**A* - C at
GCSE**

*Department for
Education Statistics
2012-2013*



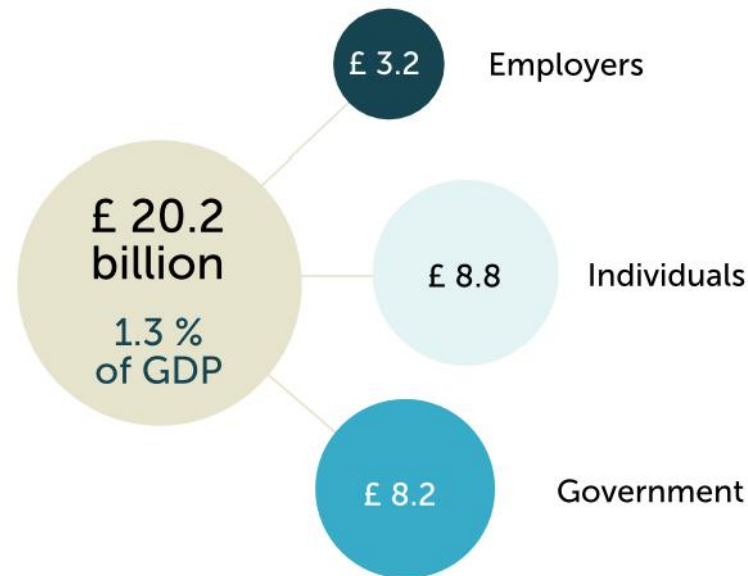
24%

of 16-24 year olds
are at the equivalent
Adult Skills Level

*Department for Business, Innovation
and Skills "Skills for Life Survey 2011".*

Poor Numeracy Costs the Nation

Cost of Low Adult Numeracy to the Nation Per Year



All costs are in billions of pounds.



A team of PBE volunteers took on this research challenge, producing analysis that puts, as its central, conservative estimate, the cost to the UK of poor adult numeracy at £20.2 billion per year (or about 1.3% of GDP).

OECD - PIAAC 2013

The impact of good numeracy

‘Good numeracy is the best protection against unemployment, low wages and poor health’

Andreas Schleicher
Director of Education and Skills, OECD
Dec 2013

 Literacy
 Numeracy

Across the board high numeracy is particularly correlated with a higher likelihood of the following positive social outcomes:

being employed



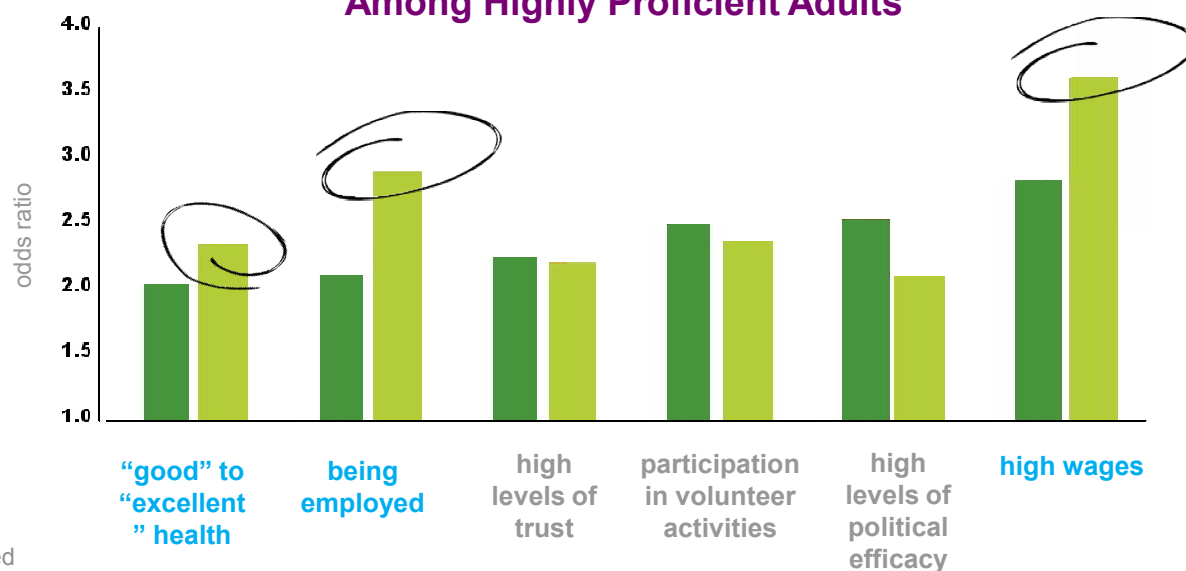
high wages



good to excellent health



Likelihood of Positive Social and Economic Outcomes Among Highly Proficient Adults



Our vision: to change this cycle...

Societal Expectations

Culture

speed = good at maths

"Maths ability is fixed."

'People as either 'mathsy' or 'creative.'

Approach to criticism, failure and mistakes.

Seeing numeracy in daily life as 'common sense'.

Immediate Surroundings

Maths as punishment

School

Curriculum

Gap between and

what is learnt in schools

what is needed for life and work.

(unintentional) negativity from teachers

Ability grouping

"Some can't do maths"

what is learnt in schools

what is needed for life and work.

Peers

Fear of being wrong in front of others.

Awareness of dyscalculia and maths anxiety.

Girls suffer from more maths anxiety

Gender

Maths and science seen as 'boys subjects' thereby alienating girls.

Family

Praising talent not effort.

'We can't do maths'

Lack of confidence & involvement (esp. dads & boys)

Mathematical geniuses

Media

Innate talent (e.g. X Factor)

'Everyone can't do maths.'

'Maths is not important.'

The importance of maths for future career and everyday life not recognised.

Failing or making mistakes in maths proves to me that I can't do it.

I can't do maths, and that can't change.

if I find a maths problem hard, I don't like to continue with it.

I don't feel that learning maths is worthwhile - I don't need it

Mindset

Being numerate – it is more than knowledge...

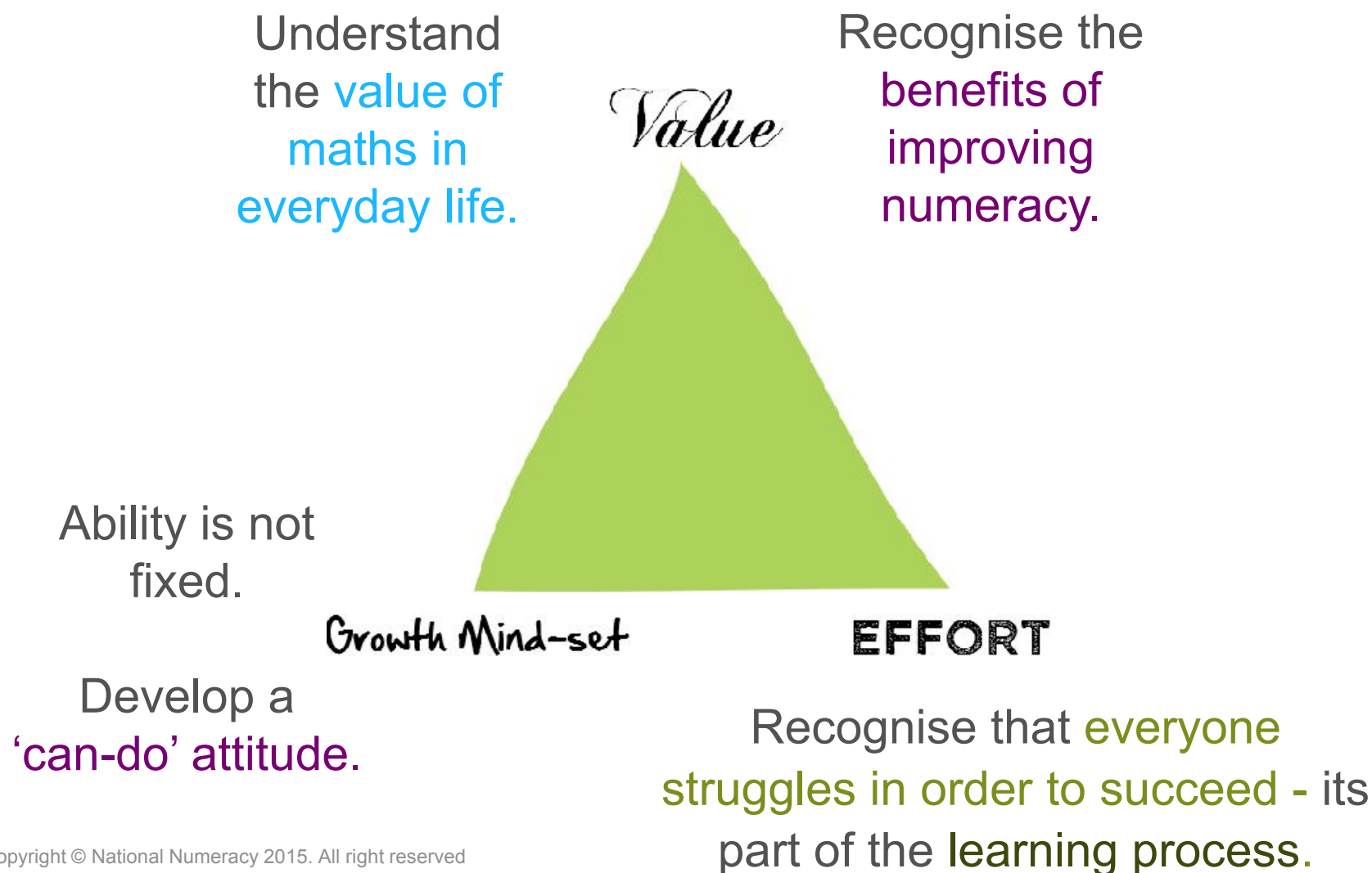
Being Numerate is knowing what to do with the tools...

...so that you can use quantitative information to **make good decisions**

Our Essentials of Numeracy



Attitudes and building 'mathematical resilience'...



Our work in schools

150+ schools

featuring:



Llywodraeth Cymru
Welsh Government



Blackpool Council

BUILDING A BETTER COMMUNITY FOR ALL

Impacting:

100 000+ children

National Mathematics Partnership works to improve the teaching and learning of maths in all aspects of education across the UK. NMP's expert mathematics consultants work in partnership with schools, local authorities and other providers of maths and numeracy education nationally.

Our work in schools – The 5 Key Levers



www.nmpartnership.co.uk
© National Mathematics Partnership

The National Numeracy Challenge

– 1 million adults over next 5 years...

1. A challenge to the UK to:

- ❖ Change attitudes
- ❖ Improve numeracy levels of the 78% below equivalent of 'C' at GCSE

2. A challenge to: Employers & Unions
Adult education bodies
Community organisations
Individuals
to work with us to effect this change.

3. An [interactive website](#) designed to:

- ❖ assess an adult's everyday maths skills
- ❖ provide a suite of learning which will improve their skills and confidence and track their progress



**STRENGTH
IN NUMBERS**

Some of the Challenge partners



The Challenge Online Progress



Data

This Week's
Challenge Data

number of people who:

registered to take the Challenge

44,021

took the Challenge Check-Up

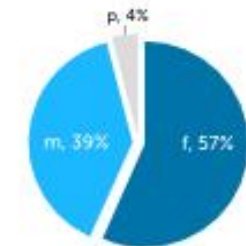
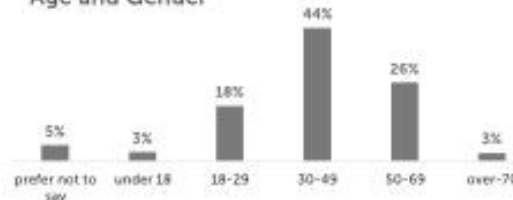
30,930

1,218 users have improved

66% of those who re-take the Challenge

Demographics (Cumulative)

Age and Gender



Level	Number Assessed
Below Entry	3%
Entry	7%
Bronze	29%
Silver	46%
Gold	14%

Working with the Behavioural Insights Team

THE
BEHAVIOURAL
INSIGHTS TEAM



- **BIT are testing** behavioural and pedagogical ‘nudges’ to support numeracy and build resilience – through the Learn, Test, Adapt cycle

Together we:

- are partnering to develop the Challenge, learning from what works best in a digital learning environment
- have established a good process for collaborative work on data and partner relations

Manifesto for a numerate UK

Summary of proposals:

1. A new drive – a vital life skill and 'I can't do maths' needs to go
2. Every teacher a teacher of numeracy – an intrinsic part of every subject, and of life
3. A new measure of numeracy proficiency at 14
4. A separate and universally respected qualification in numeracy is needed alongside GCSE maths

Manifesto for a numerate UK

Summary of proposals – continued:

5. A new adult core curriculum is needed – with 'being numerate' at the centre
6. New forms of adult assessment are required – based upon 'distance travelled' rather than just end result
7. More behavioural research is needed into improving numeracy and developing resilience and persistence

National Numeracy overview

January 2015