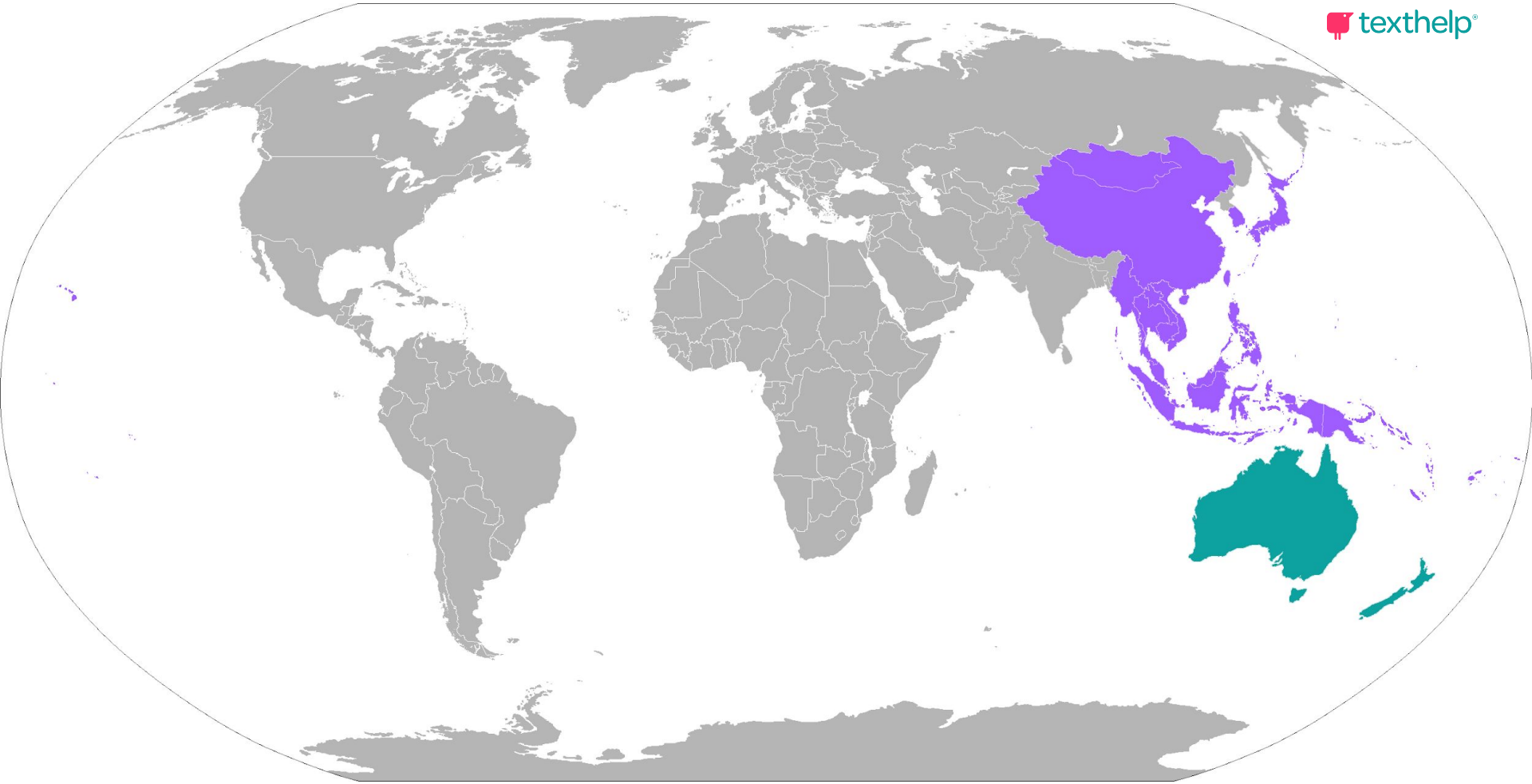
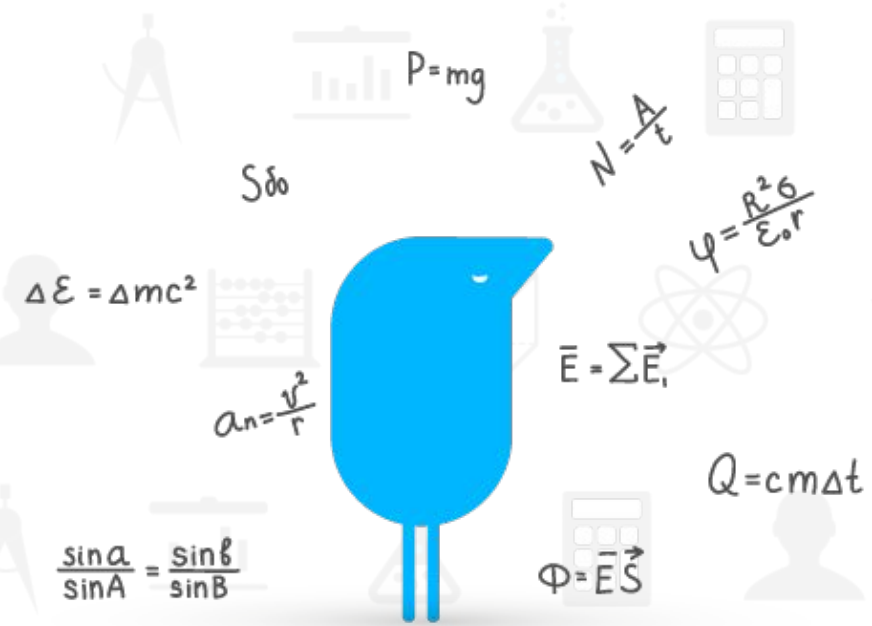
# Maths made digital and accessible for all : Read&Write and EquatIO

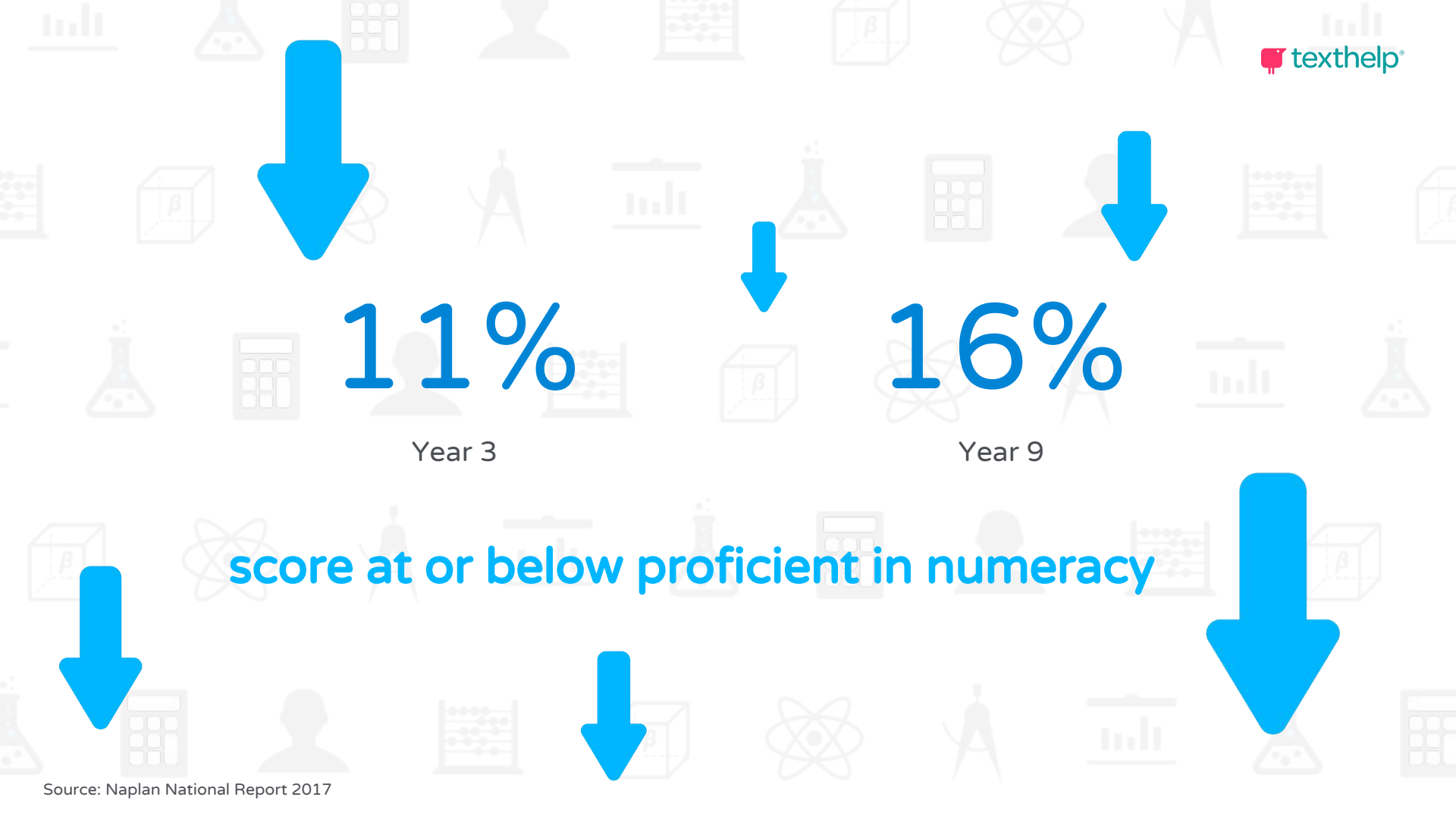
texthelp

# hello,
# I'm greg.

Greg O'Connor
Technology Innovation
and Implementation
Texthelp


texthelp


P=mg
N=A/t
Sδo
φ=R²σ/ε₀r
ΔE=Δmc²
E=ΣE
aₙ=v²/r
Q=cmΔt
sinα/sinA = sinβ/sinB
Φ=ES




Source: Naplan National Report 2017

# problem #1

**kids with persistent maths problems in school are...**

13%

less likely to graduate high school

29%

less likely to attend university

Source: PhysOrg.com

# problem #2

**attitudes formed as early as primary school have the ability to influence whether students want to pursue careers in STEM**

Source: MDPI

# need to build a STEM workforce

today:

**STEM jobs** are growing at **1.5x** the rate of non STEM-based jobs

Source: Australia's Office of the Chief Scientist

# need to build a STEM workforce

**surveyed employers:**

82%

Said:
employees with STEM qualifications were valuable to the workplace

71%

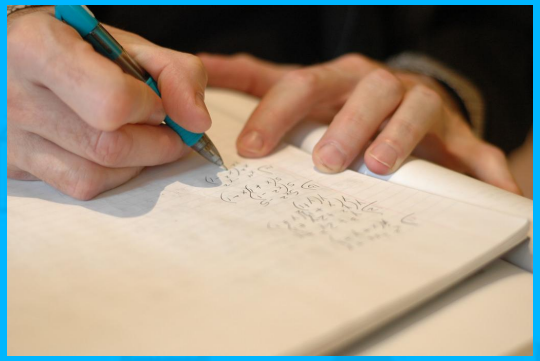
Said:
STEM employees were amongst their most innovative workers

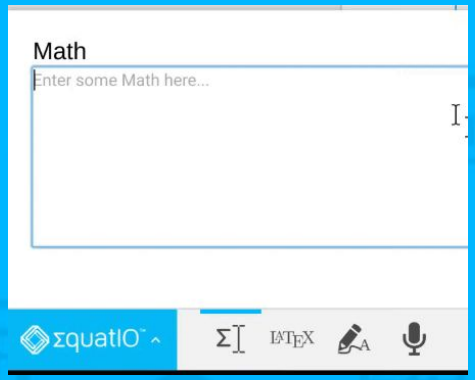
Source: Australia's Office of the Chief Scientist

# barriers to maths / STEM

# literacy

texthelp

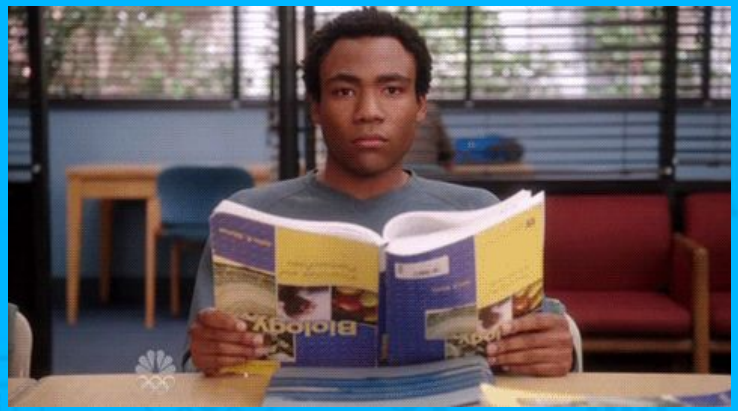





# non-digital vs digital

# access to maths / STEM

learner agency
texthelp
giving our learners the power to act




# literacy and maths

Research has shown that mathematics texts contain **more concepts per sentence and paragraph** than any other type of text.

Joan M. Kenney (2005) *Literacy Strategies for Improving Mathematics Instruction*, ASCD, 2005

Words as well as numeric and non-numeric symbols to decode

Graphics that must be understood for the text to make sense

comprehension
problems
when reading
**below 100 wpm**

when read to
you **listen and understand**
content that is
**above**
your reading level

texthelp®

rw read&write

texthelp®

texthelp®

# simplicity

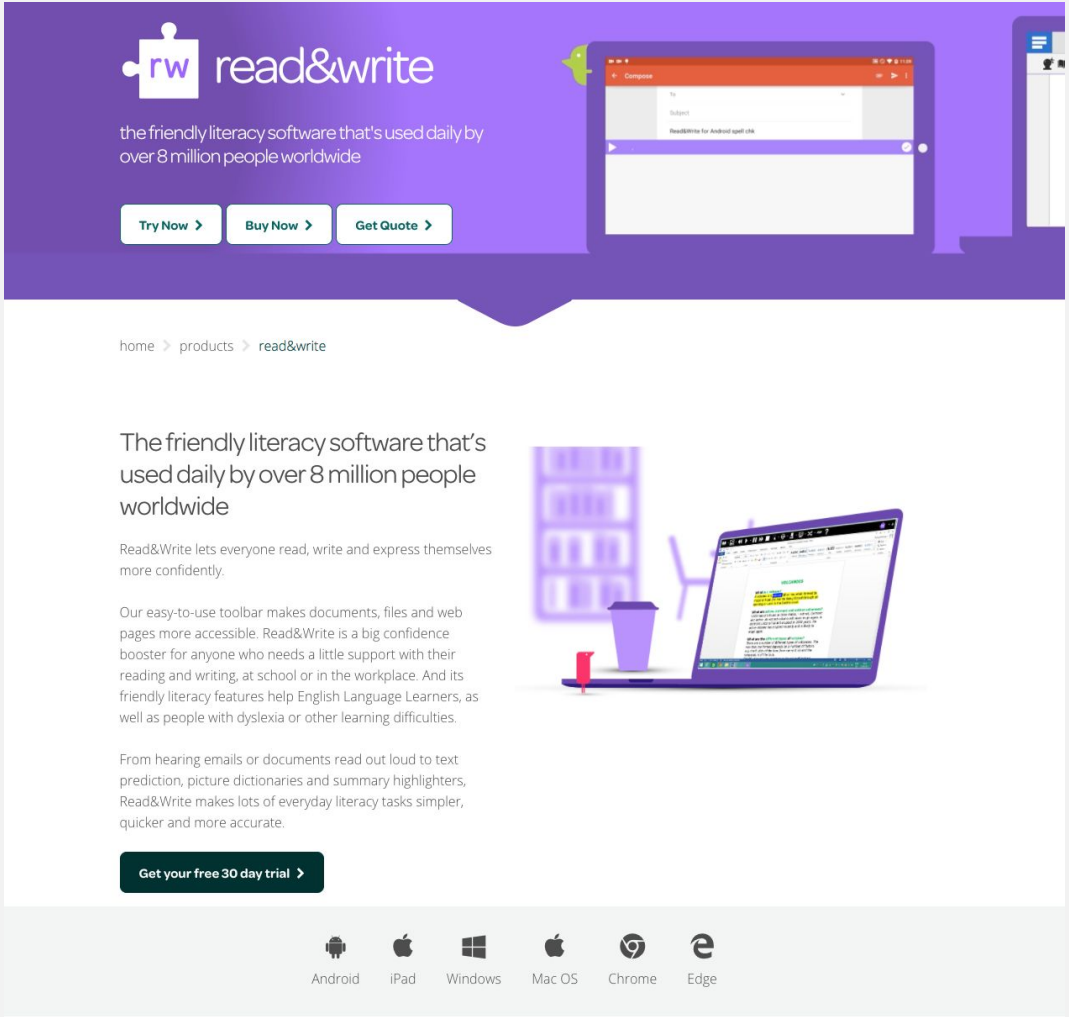
one toolbar - easy deployment
integrated - all operating systems

| | For Windows | For Windows (11.5) | For Mac | For Google Chrome | For Microsoft Edge | For iPad | For Android |
|---|---|---|---|---|---|---|---|
| Text to Speech | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Read the Web/Hover Speech | ✔ | ✔ | ✔ | ✔ | ✔ | | |
| PDF Reader (PDF Viewer) | ✔ | ✔ | ✔ | ✔* | | | |
| Dictionary | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Picture Dictionary | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Prediction | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Screenshot Reader | ✔ | ✔ | ✔ | ✔ | | | |
| Highlights (Study Skills) | ✔ | ✔ | ✔ | ✔ | ✔ | | |
| Vocabulary List | ✔ | ✔ | ✔ | ✔ | | | |
| Scanning | ✔ | ✔ | ✔ | | | | |
| Spell Check | ✔ | ✔ | ✔ | | | ✔ | ✔ |

texthelp®

rw

bit.ly/RWChart


rw
read&write
the friendly literacy software that's used daily by over 8 million people worldwide
Try Now
Buy Now
Get Quote
home
products
read&write
The friendly literacy software that's used daily by over 8 million people worldwide
Read&Write lets everyone read, write and express themselves more confidently.
Our easy-to-use toolbar makes documents, files and web pages more accessible. Read&Write is a big confidence booster for anyone who needs a little support with their reading and writing, at school or in the workplace. And its friendly literacy features help English Language Learners, as well as people with dyslexia or other learning difficulties.
From hearing emails or documents read out loud to text prediction, picture dictionaries and summary highlighters, Read&Write makes lots of everyday literacy tasks simpler, quicker and more accurate.
Get your free 30 day trial
Android
iPad
Windows
Mac OS
Chrome
Edge

texthelp®

# Text-to-Speech

texthelp

# Read&Write Voice Note

texthelp

# OCR

optical
character
recognition

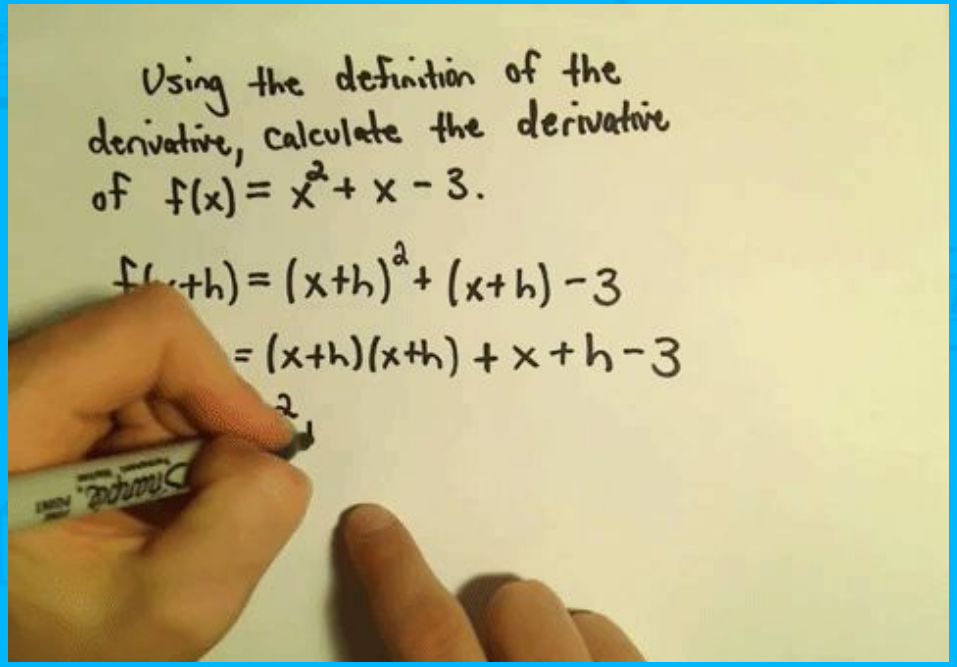
scan

# Texthelp PDF Reader

texthelp

# research

texthelp




# pen & paper

# vs

# digital

empower students to communicate their thought process in the method they prefer!

Ecuación | Profesional | Lineal | Texto normal | Herramientas

Símbolos

Fracción | Índices | Radical | Integral | Operador grande | Corchete | Función | Énfasis | Límite y logaritmo | Operador | Matriz

Integrales

Integrales de línea

$$\sqrt[5]{4x^2 + \sqrt[2]{5a} - \sqrt[3]{\frac{7x + z^{2y}}{5x^2}}}$$

$$\int (x^5 + yx + 5)\,dx$$

$$\iint_{-5}^{x+3} (x^5 + yx + 5)\,dx$$

$$\iiint (x^5 + yx + 5)\,dx$$

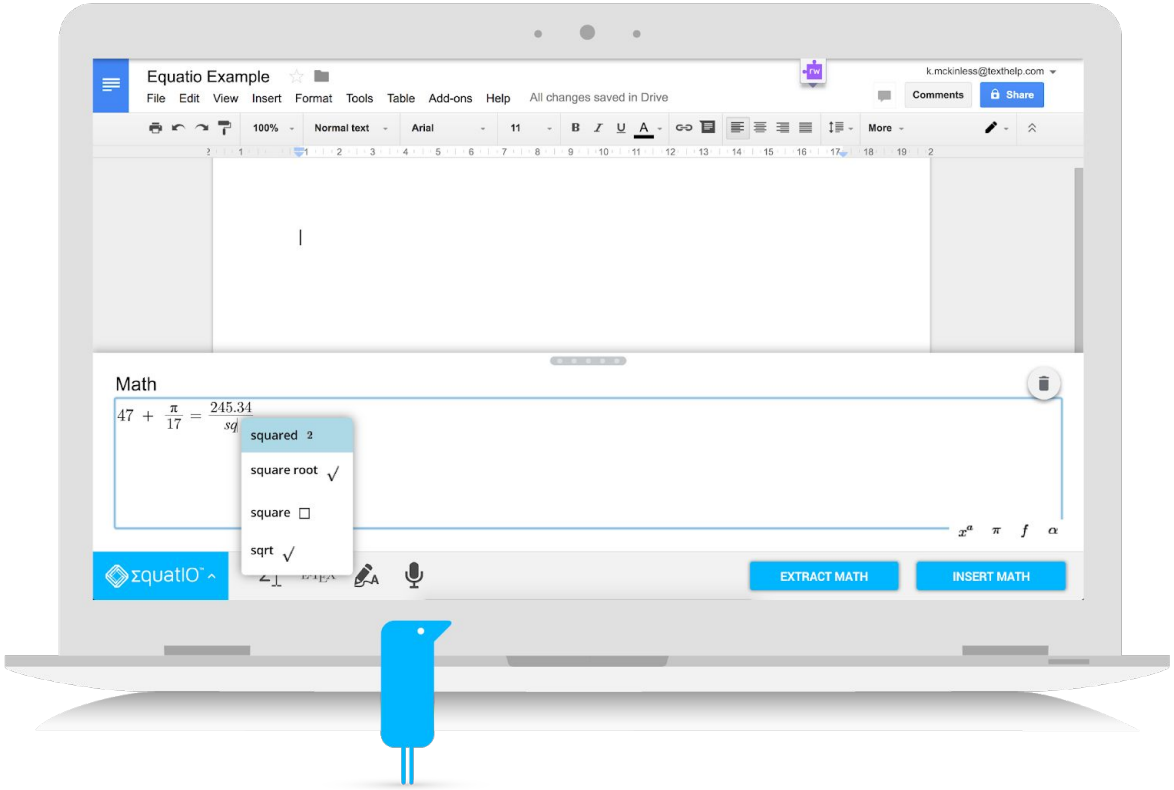
$$\oint_{-5}^{5} (y^2 + 3y)$$

empower students to communicate their thought process in the method they prefer!

texthelp®

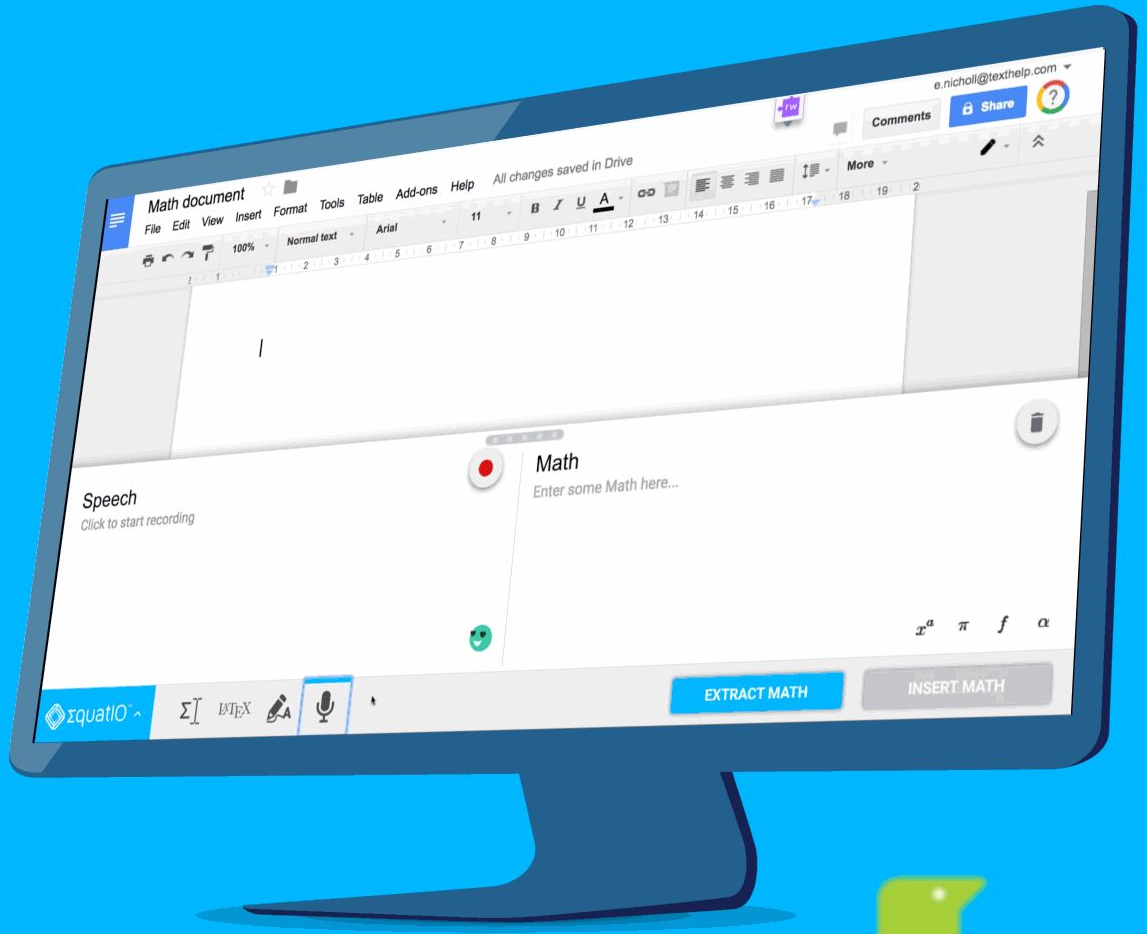
## Multiple means of expression

- ✔ Prediction
- ✔ Handwriting Recognition
- ✔ Speech Input
- ✔ Shapes and manipulatives
- ✔ Graphing



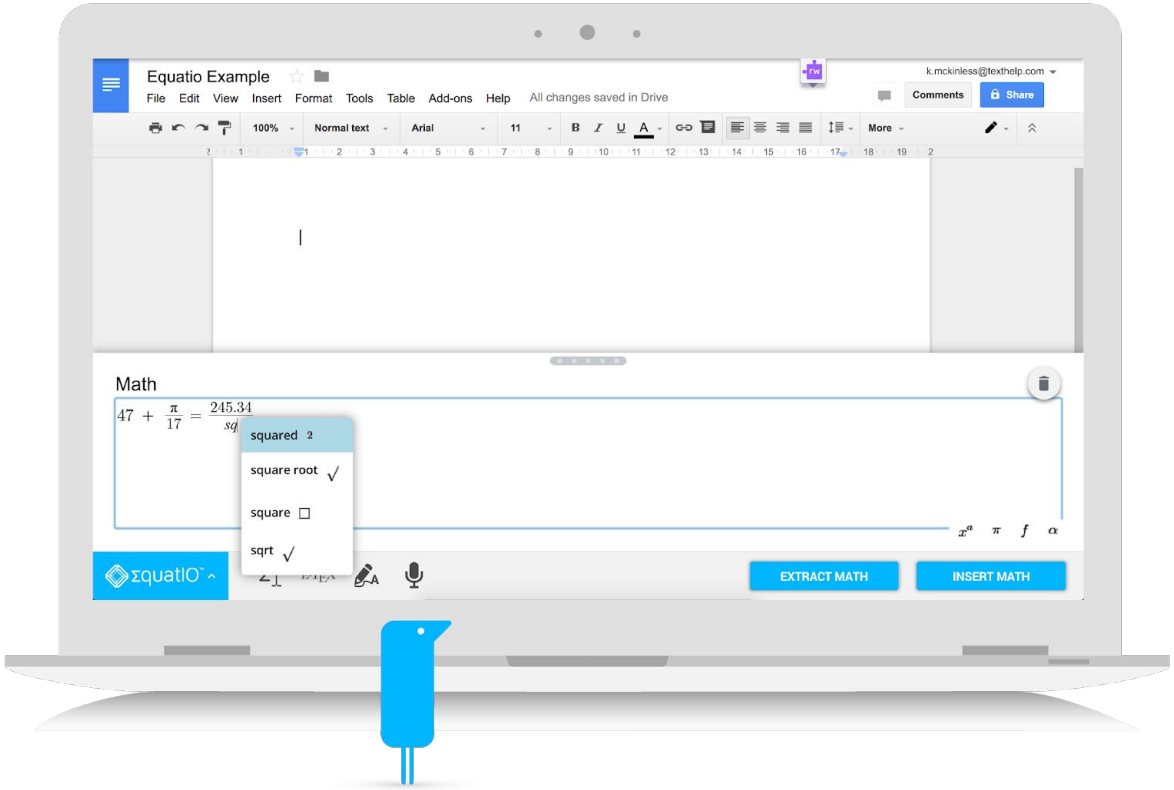
texthelp

# speech input



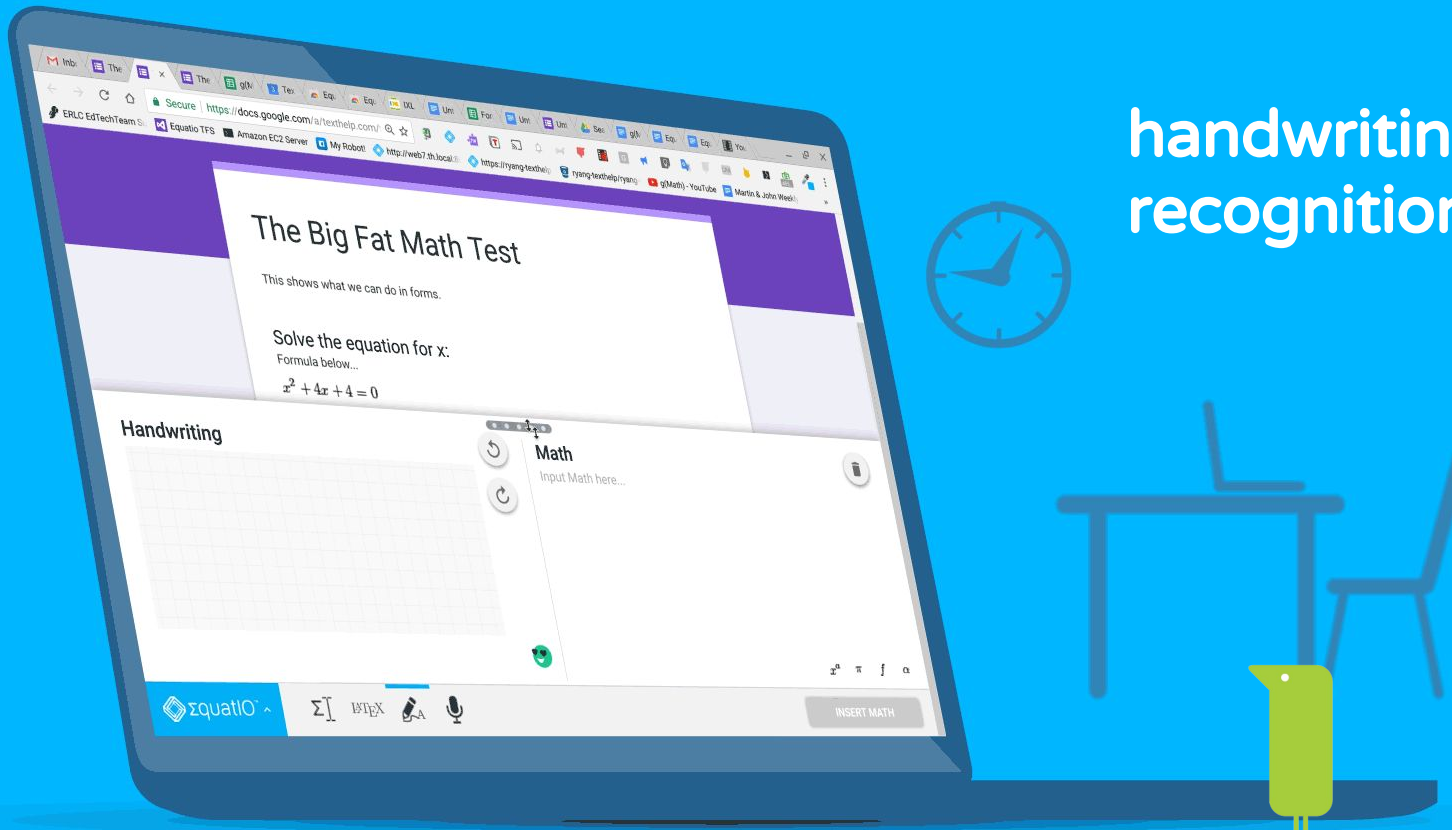
# prediction

- ✔ math
- ✔ chemistry
- ✔ formula

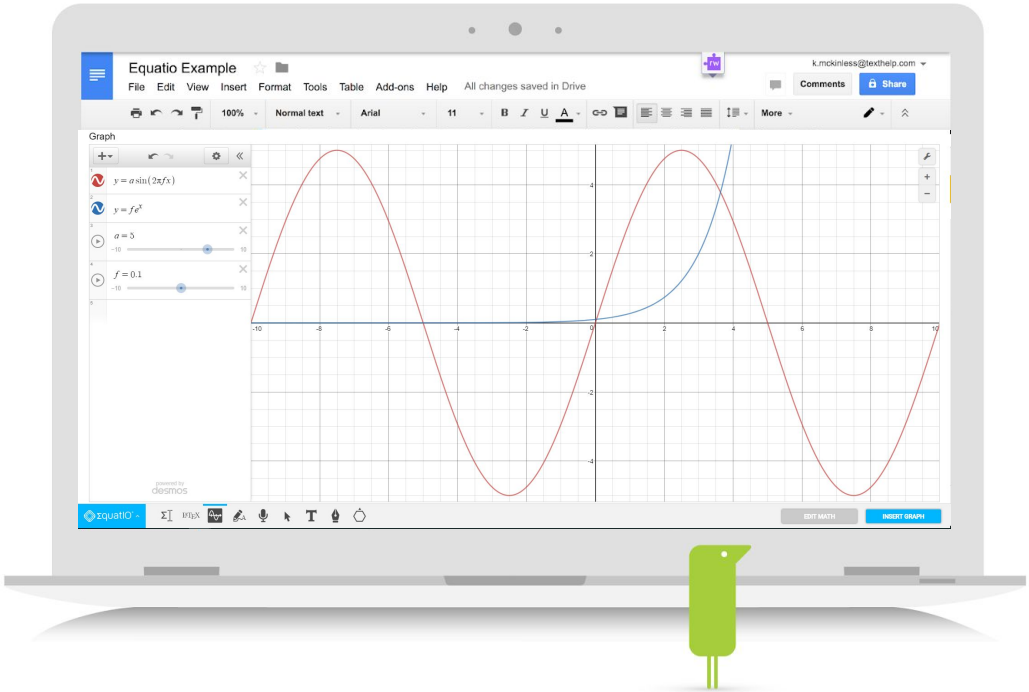


texthelp

# handwriting recognition



texthelp




# dynamic graphs powered by...

desmos

texthelp®

# Chrome web store

or

# www.texthelp.com

EquatIO®

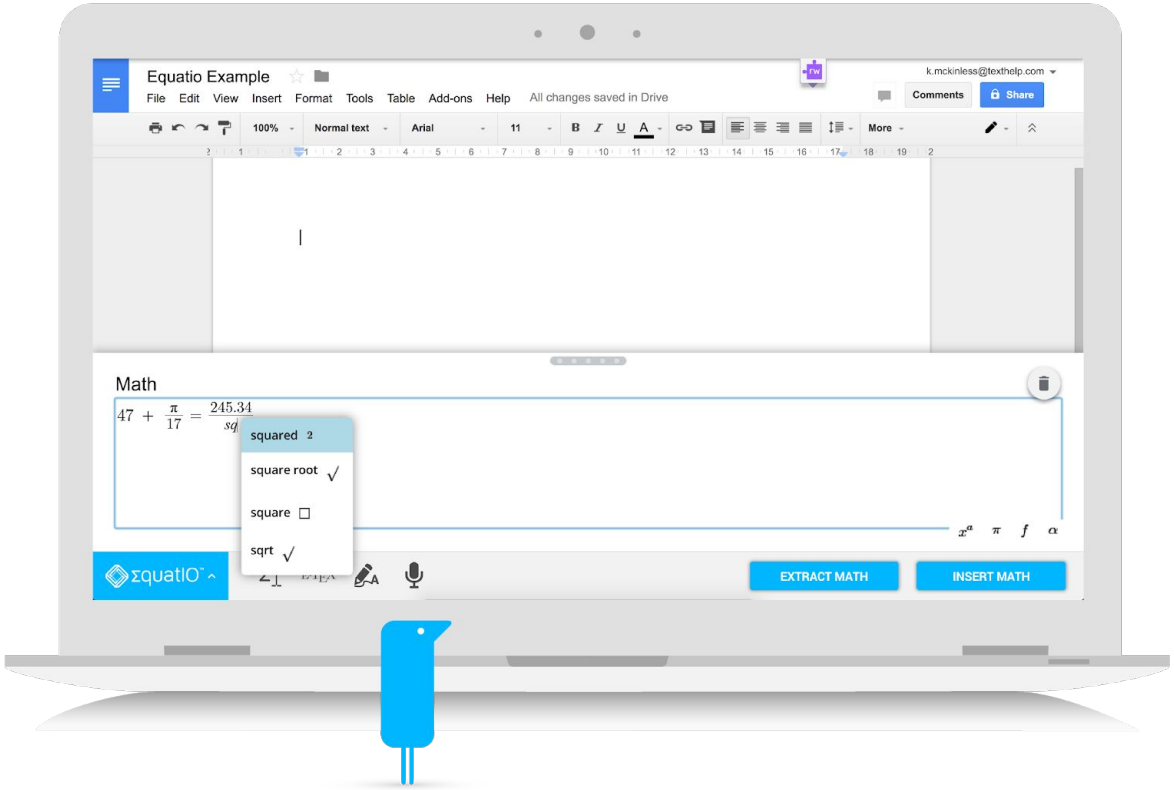
make math digital

texthelp

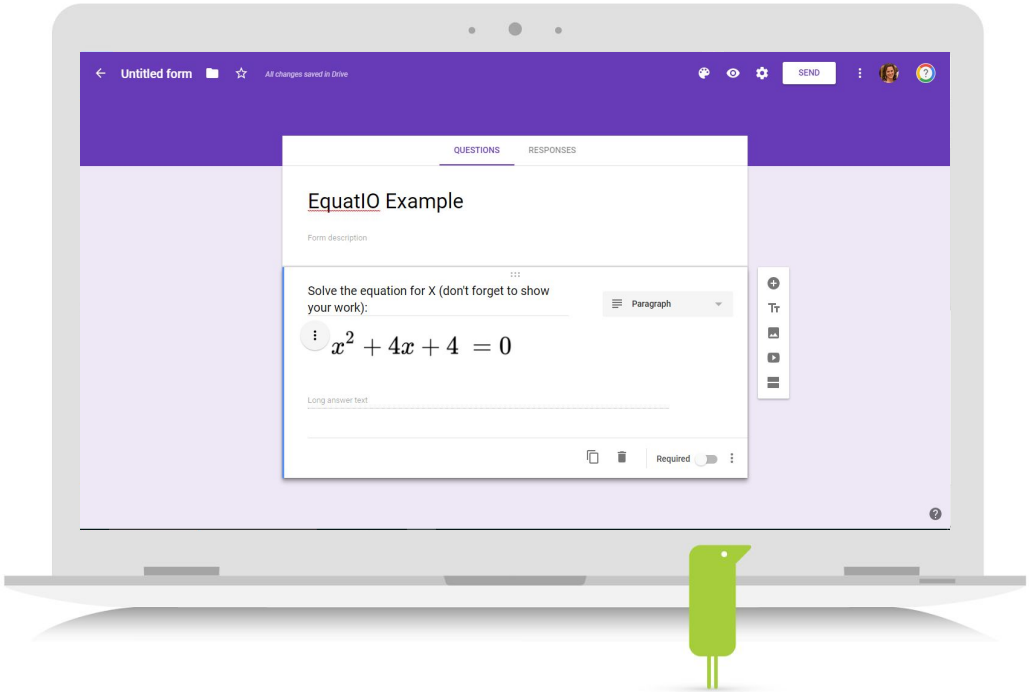
# EquatIO for Google

## Chrome Extension for Docs, Forms, Slides, Sheets & Drawings

# google docs

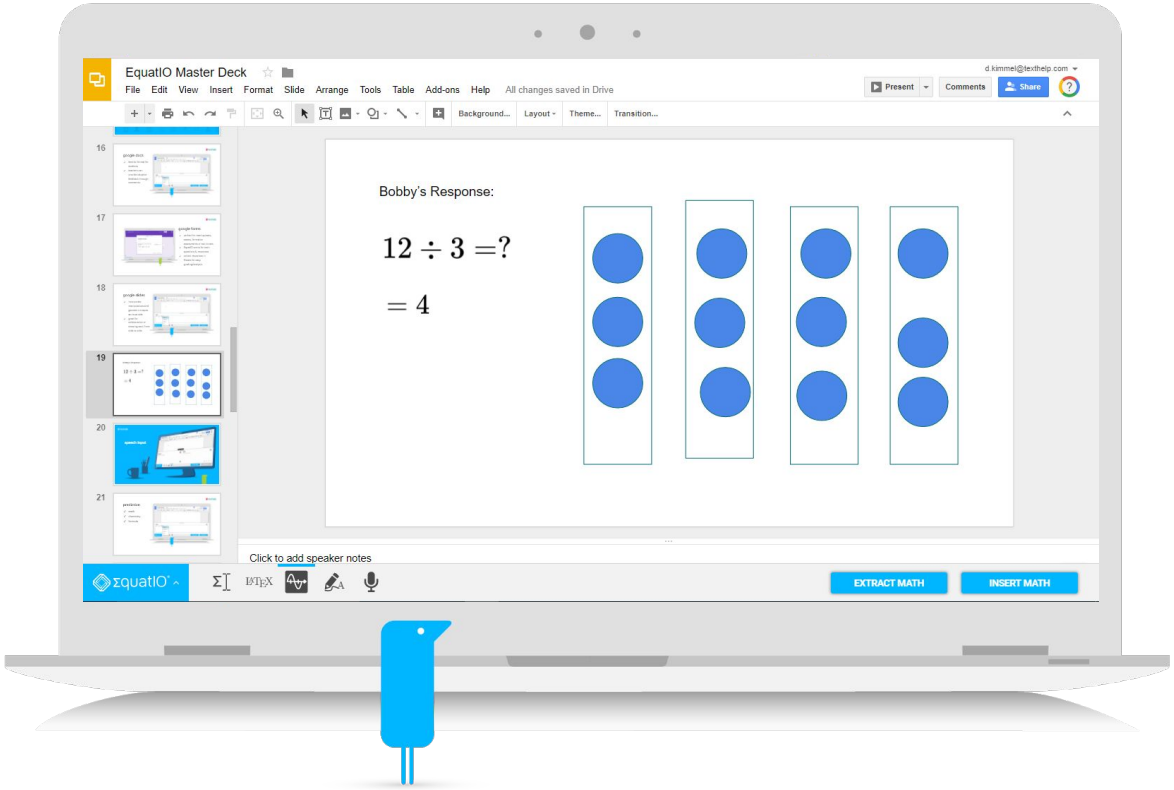

Equatio Example
File Edit View Insert Format Tools Table Add-ons Help
All changes saved in Drive
k.mckinless@texthelp.com
Comments
Share
Math
squared 2
square root √
square □
sqrt √
EXTRACT MATH
INSERT MATH

texthelp




# google forms

# google slides



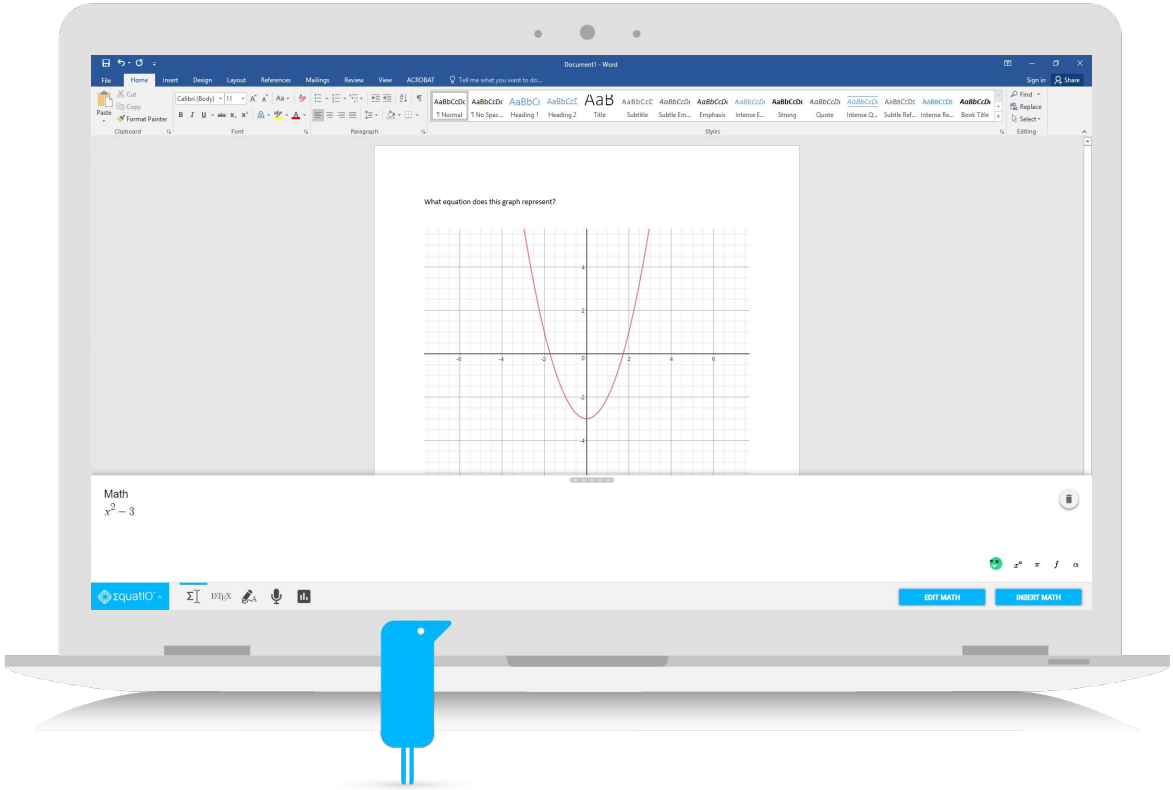
texthelp

# EquatIO for Windows/Mac

## Desktop app for Microsoft Word

# microsoft word

- ✔ no matter the device or platform, teachers and students can make math digital with EquatIO



texthelp

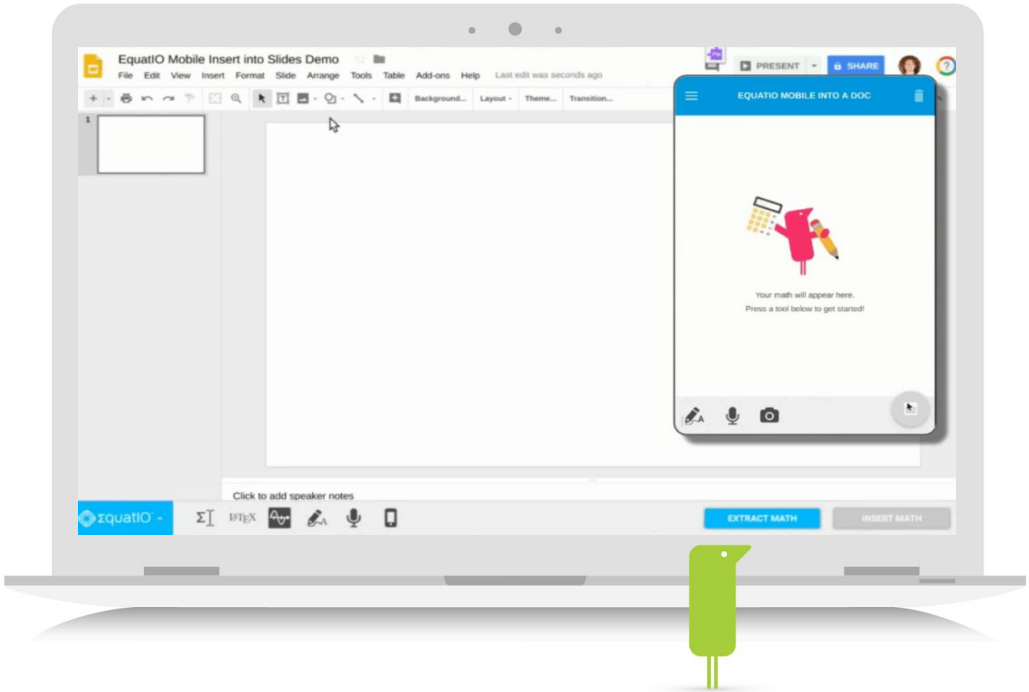
# EquatIO mathspace

Web app for Google Chrome
(compatibility with other web browsers coming)

texthelp

# EquatIO Mobile

## Digital Maths in the Palm of your Hand



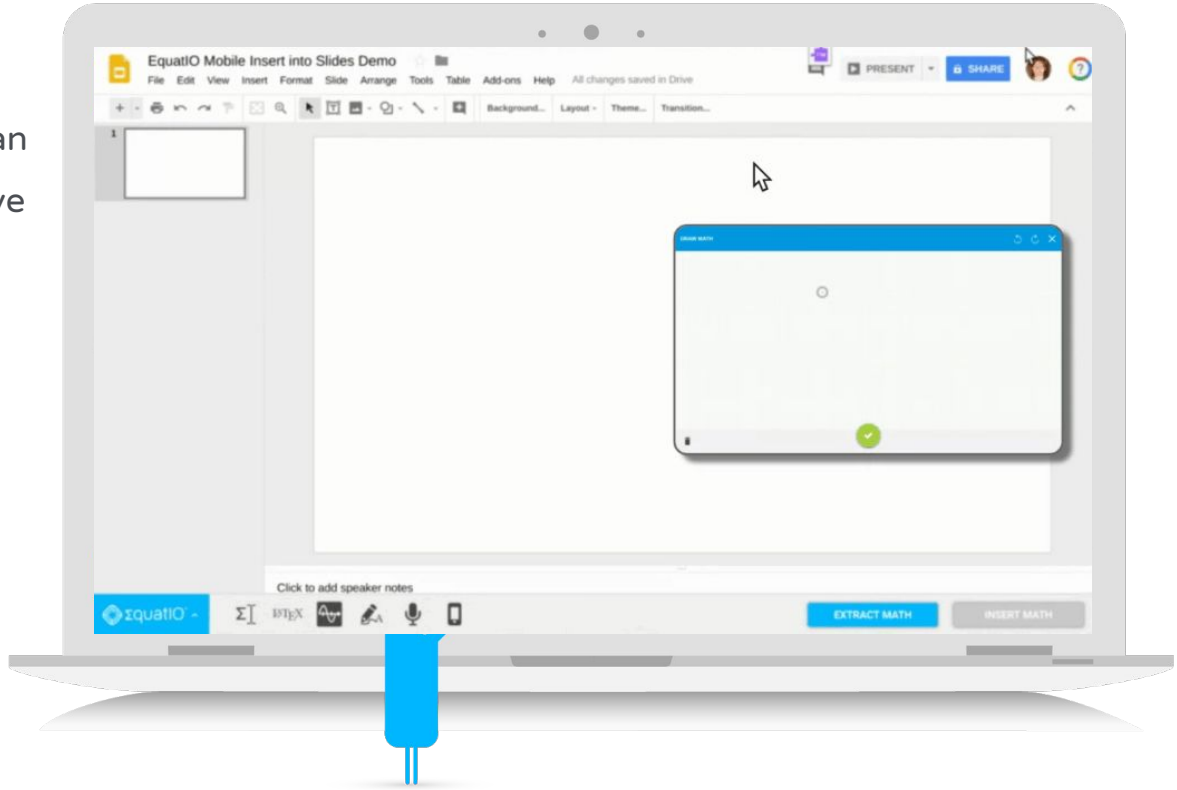

# equatIO mobile*

- ✔ use your phone/tablet to handwrite, record, or take an image of math
- ✔ upload the math directly to the document on your computer

*Currently available for EquatIO for Google & EquatIO mathspace

# equatIO mobile benefits:

- ✔ easy to make digital math - can use touch devices already have access to
- ✔ ideal for students that don't have touch screen computers/Chromebooks or prefer more traditional forms of learning
- ✔ experience the benefits of technology no matter what form that math comes in

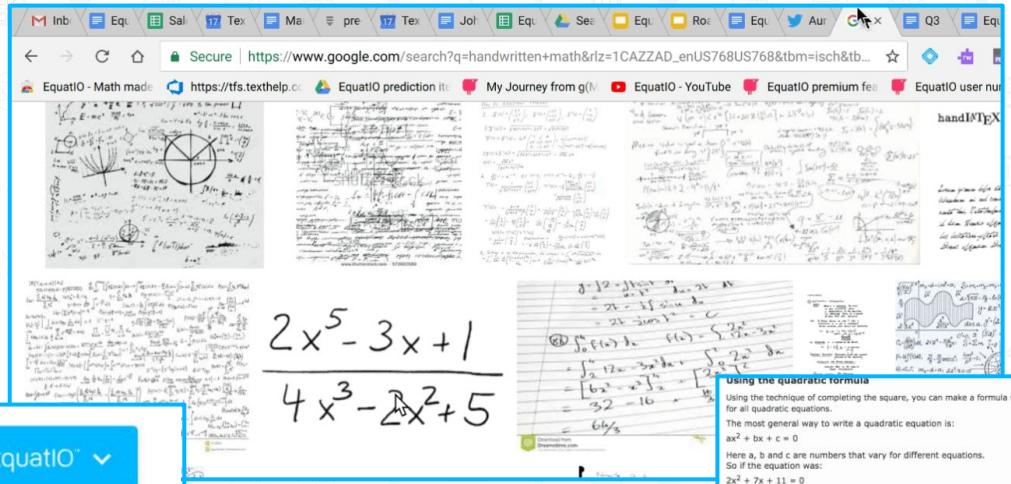


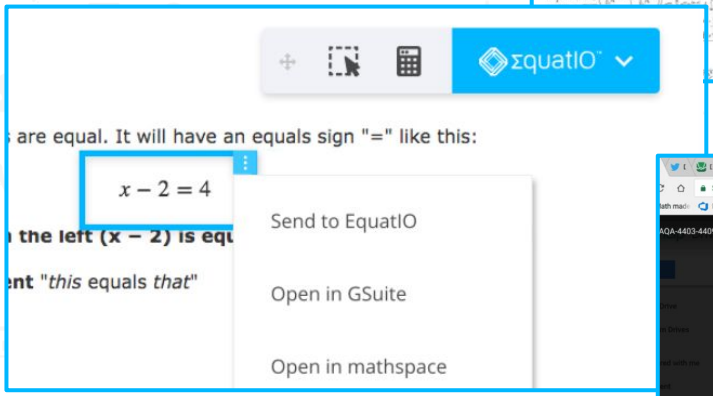
texthelp

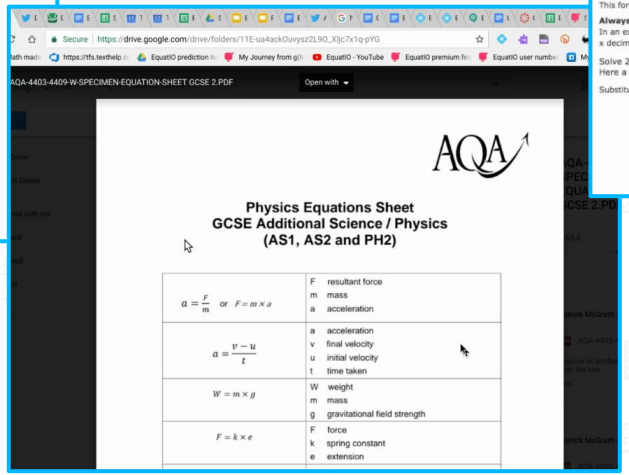
# EquatIO Screenshot Reader

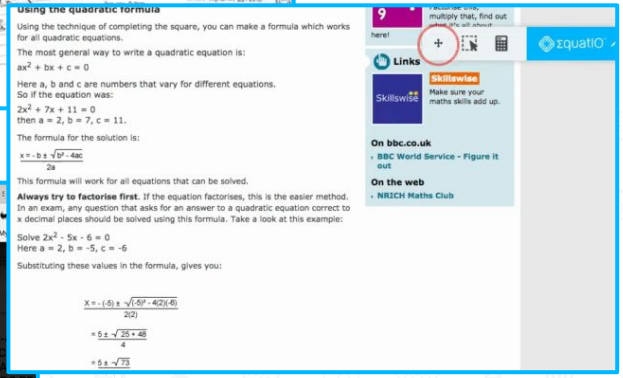
For websites, PDFs and more.

texthelp


Secure https://www.google.com/search?q=handwritten+math&rlz=1CAZZAD_enUS768US768&tbm=isch&tb...
EquatIO - Math made
https://tfs.texthelp.c
EquatIO prediction it
My Journey from g(
EquatIO - YouTube
EquatIO premium fea
EquatIO user nu
handMTEX
$\frac{2x^5 - 3x + 1}{4x^3 - 2x^2 + 5}$


EquatIO
are equal. It will have an equals sign "=" like this:
$x - 2 = 4$
Send to EquatIO
Open in GSuite
Open in mathspace


Secure https://drive.google.com/drive/folders/11E-ua4ackOuvysz2L9O_XJjc7x1q-pYG
AQA-4403-4409-W-SPECIMEN-EQUATION-SHEET GCSE 2.PDF
Open with
AQA
Physics Equations Sheet
GCSE Additional Science / Physics
(AS1, AS2 and PH2)
$a = \frac{F}{m}$ or $F = m \times a$
F resultant force
m mass
a acceleration
$a = \frac{v - u}{t}$
a acceleration
v final velocity
u initial velocity
t time taken
$W = m \times g$
W weight
m mass
g gravitational field strength
$F = k \times e$
F force
k spring constant
e extension


Using the quadratic formula
Using the technique of completing the square, you can make a formula which works for all quadratic equations.
The most general way to write a quadratic equation is:
$ax^2 + bx + c = 0$
Here a, b and c are numbers that vary for different equations.
So if the equation was:
$2x^2 + 7x + 11 = 0$
then a = 2, b = 7, c = 11.
The formula for the solution is:
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
This formula will work for all equations that can be solved.
Always try to factorise first. If the equation factorises, this is the easier method. In an exam, any question that asks for an answer to a quadratic equation correct to x decimal places should be solved using this formula. Take a look at this example:
Solve $2x^2 - 5x - 6 = 0$
Here a = 2, b = -5, c = -6
Substituting these values in the formula, gives you:
$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(2)(-6)}}{2(2)}$
$= \frac{5 \pm \sqrt{25 + 48}}{4}$
$= \frac{5 \pm \sqrt{73}}{4}$
Links
Skillswise
Make sure your maths skills add up.
On bbc.co.uk
BBC World Service - Figure it out
On the web
NRICH Maths Club
EquatIO

texthelp®

students access and use
the information they need
in ways that are
**meaningful** to them

texthelp®

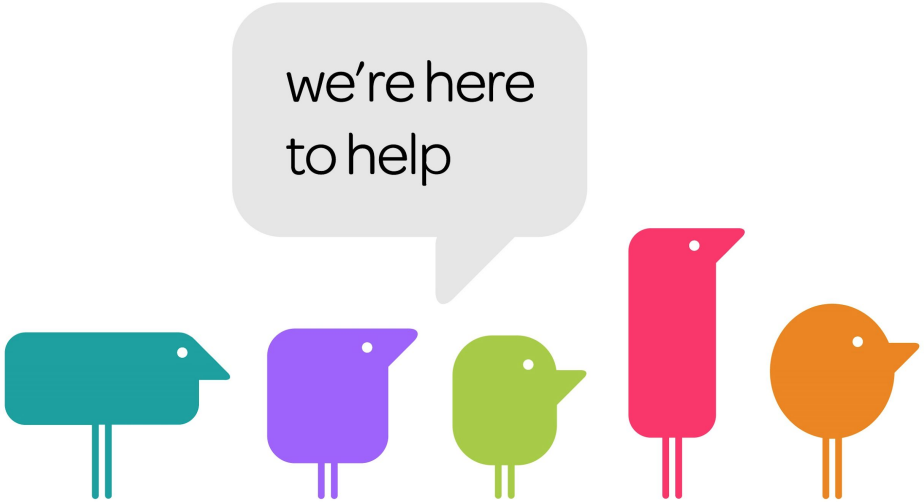
engaged and empowered learners

**learner agency**

# Texthelp Youtube Channel:

youtube.com/Texthelp

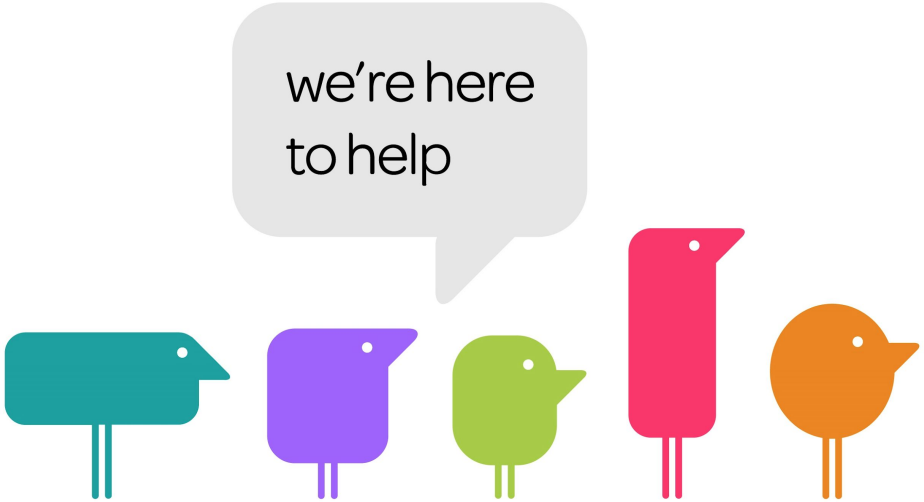
texthelp®




# Texthelp Support email:

support@texthelp.com

texthelp®




# Your Asia Pacific team:

asiapac@texthelp.com