

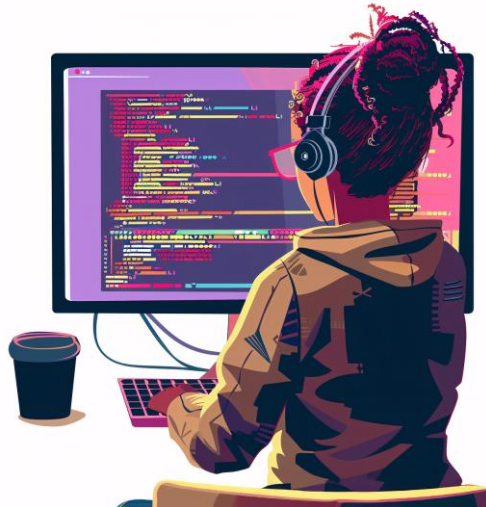
MEI®

Mathematics
Education
Innovation

Over 60 years
at the forefront
of Mathematics
Education

Aim

To explore how technology (including generative AI tools) can be used effectively to enhance teaching, learning and assessment in maths.

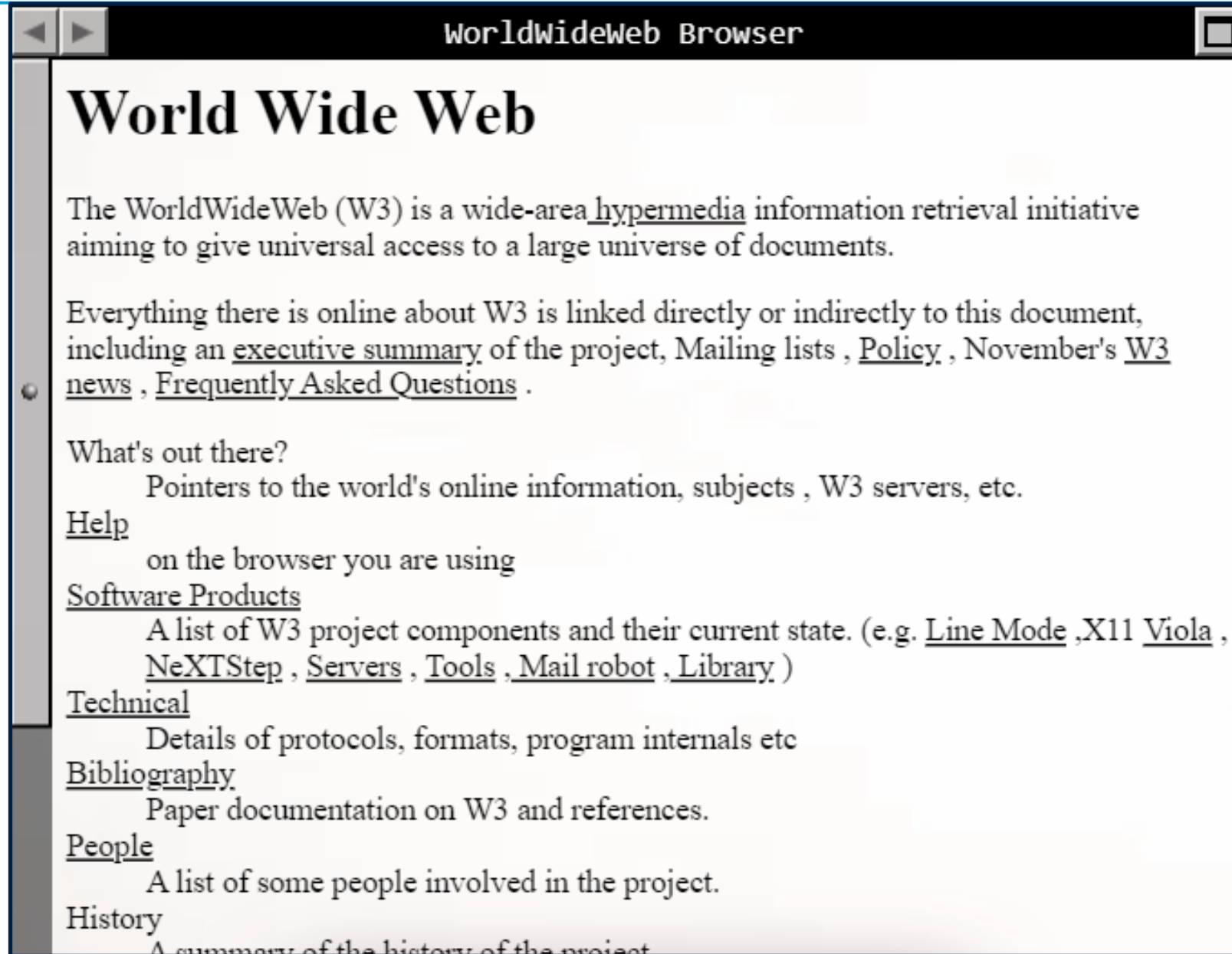


Step back in time





What happened in 1989?







1994

1997





What technology do you use?

Why?

MacBook Pro

Hey, students!

Go to student.desmos.com and type in:

GBU YWT

Continue without signing in



**Introduce
concepts, topics,
techniques**

**Explore
concepts**

**Consolidate
and practice**

Collaborate

Assess

**Communicate
ideas**

Padlet

fecpdteam • 21m

The use of technology - NANAMIC

Introduce concepts, topics and techniques

Explore concepts

Consolidate and practice

Collaborate

Assess

Communicate ideas

AI Tools

NEAL FUN

Internet Artifacts

Asteroid Launcher

Days Since Incident

Earth Reviews

Let's Settle This

Space Explorers

Draw a Perfect Circle

Wonders of Street View

Disorder Trainers

Ambient Chaos

neal.fun

neal.fun

Mathematical Hooks

Chelsea FC 1st Team Internal Player Finest Season 2019-20

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Mathematical Hooks

Mathspad

mathspad.co.uk

Exterior Angles Tool

ctives/interiorExteriorAnglesTool/exteriorTool2.php

MathsBot.com

mathsbot.com

jamboard.google.com

Open in app?

Desmos - Polygraphs

teacher.desmos.com

Polygraph: Triangles

teacher.desmos.com

Paint

Connecting Maths Teachers

Listed group

3,345 members including Laura Wolfe and 44 other connections

Invite

Share

TikTok

tiktok.com

diagnosticquestions.com

Sign In | Diagnostic Questions

Transum

transum.org

Transum

chatgpt.com

copilot.microsoft

Microsoft Copilot companion

Claude

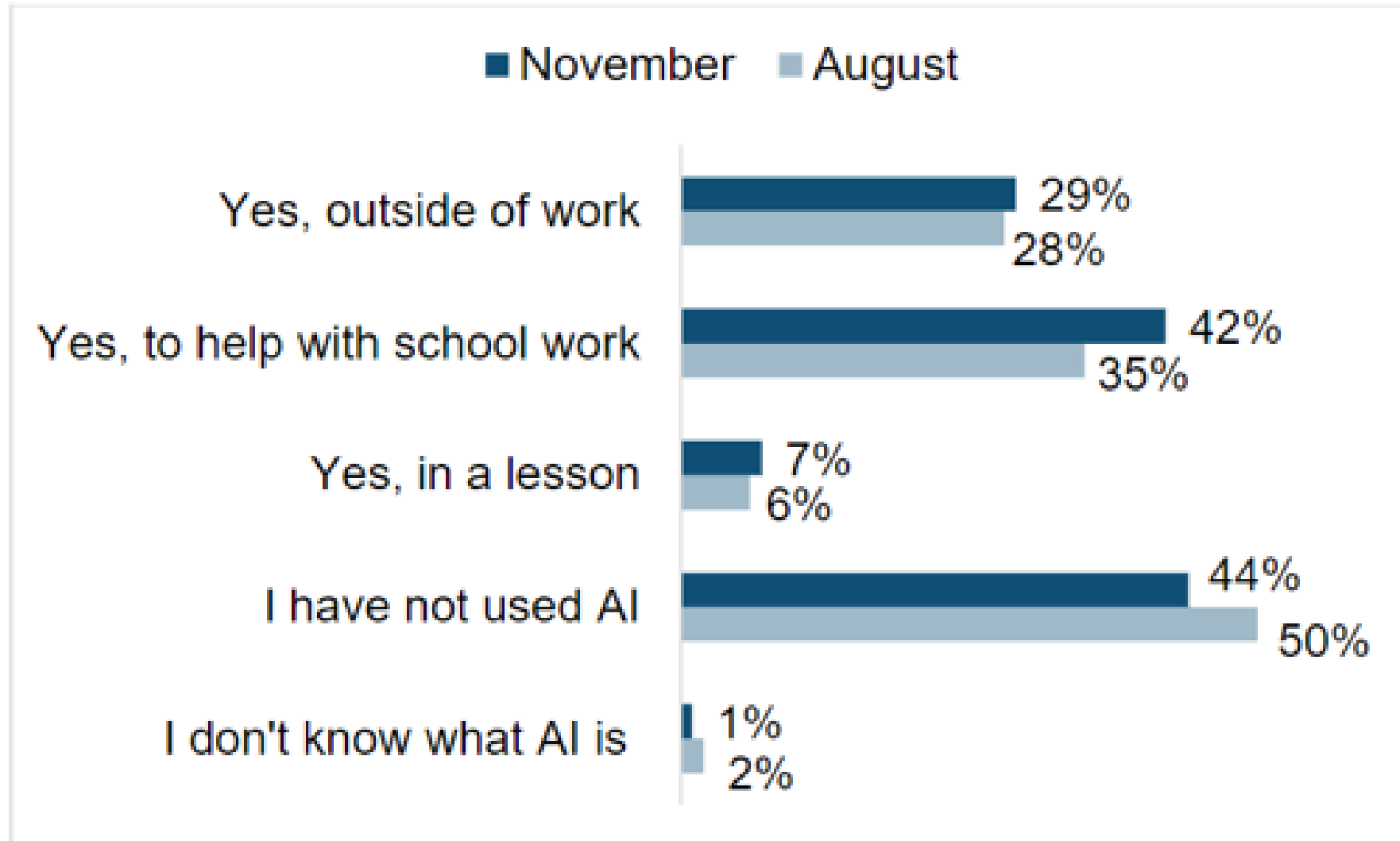
claude.ai

ChatGPT reaches 100 million users two months after launch

AI news – latest: ChatGPT is showing signs of thinking like humans, experts say

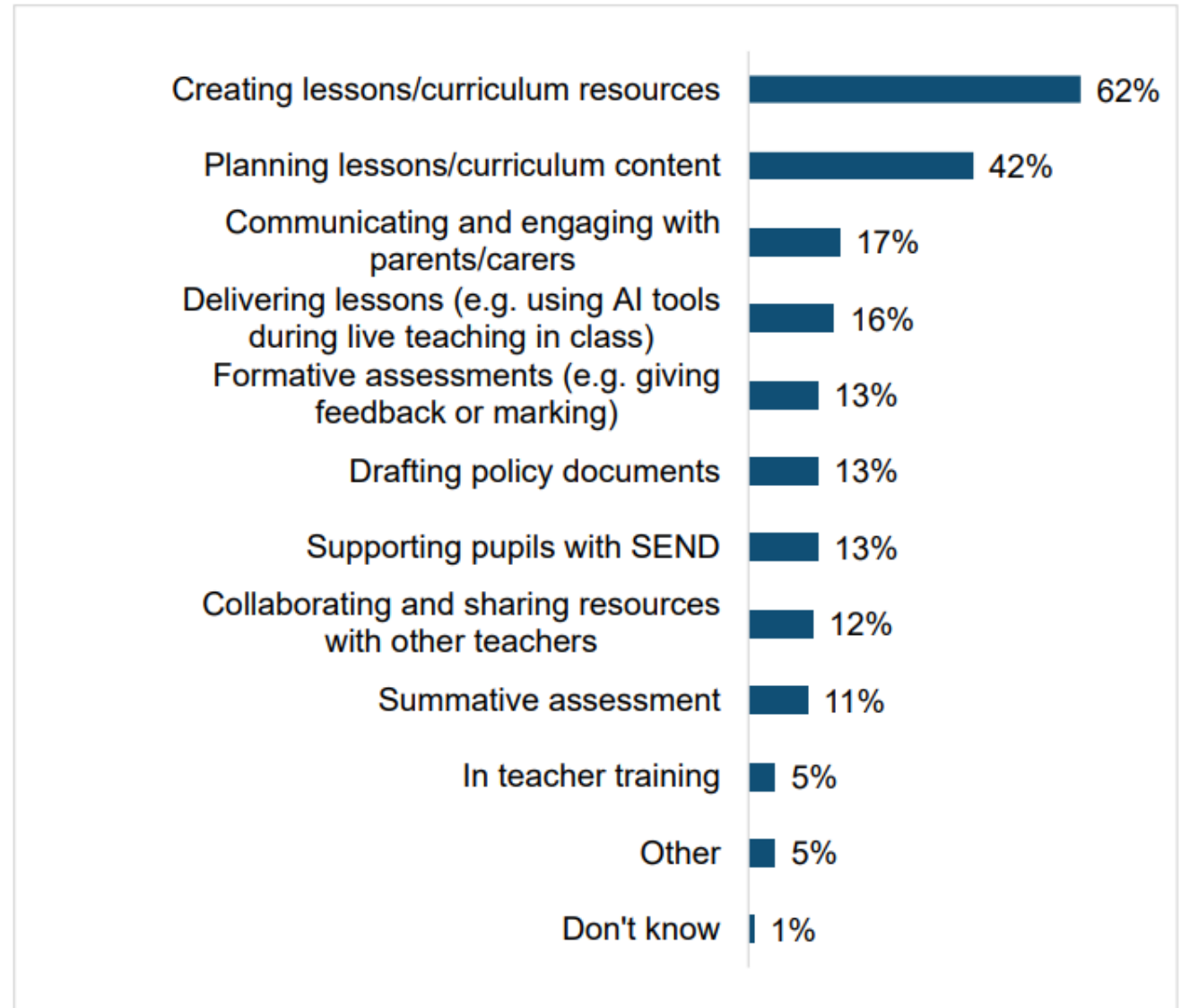
Google Releases Bard, Its Competitor in the Race to Create A.I. Chatbots

Figure 1 Adoption of GenAI for education among school teachers



Desmos slide 3

Figure 4 GenAI applications amongst the subset of school teachers and leaders using it



Source: DfE School and Colleges Panel (April 2023). Leaders and teachers using GenAI in their role (n=280).

- Classical AI

- Machine Learning



- Generative AI





commentary in snack-sized mouthfuls

"I want AI to do my laundry and dishes so that I can do art and writing, not for AI to do my art and writing so that I can do my laundry and dishes."

Author and videogame enthusiast **Joanna Maciejewska** nails it (although bathroom cleaning goes ahead of laundry and dishes)

"I'm sure I deserve
a lot of



- Reduce workload
- Creativity
- Efficiency
- Personalised learning
- Feedback
- Provocation



- Embedded bias
- Ethical considerations
- Academic dishonesty
- Accuracy
- Need for human oversight

I asked Copilot for a picture of a mathematician



"A mathematician"

Designer

Powered by DALL·E 3

11

Make it an ancient mathematician

Add a chalkboard with equations in the background

Include some mathematical symbols around them

Chat GPT

1. Provide Context
2. Ask Clear Questions
3. Encourage Engagement

Copilot

1. Be Clear and Specific
2. Set Expectations
3. Add Context About Your Scenario

Claude

1. Provide context
2. Be clear about the desired output
3. Break down complex tasks

Gemini:

1. Start specific
2. Provide context
3. Embrace iteration

Chat GPT

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Please give me some questions on percentages

Please give me 3 percentage questions suitable for a level 1 functional skills maths student. Make sure the percentages are only in multiples of 5. Put the questions in the context of hair and beauty.

Change the context to construction.

I am teaching level 2 functional skills maths and want some data to show negative, positive and no correlations. Can you provide some datasets?

You've reached your data analysis limit.

Upgrade to ChatGPT Plus or try again tomorrow after 1:40 PM.

[Get Plus](#)



Provide me with a model answer to q6

Write 2 questions in the same format as question 7 but with different values.

Please act as a coach to help me answer question 11. Don't give the answer but provide prompting questions to allow the students to learn how to answer. Ask questions one by one and use the response to decide next steps.

Provide me with a model answer to q6

- 6 The pictogram gives information about the number of hours of sunshine on a Saturday and on a Sunday.

Saturday	   
Sunday	 

Key:  represents 2 hours of sunshine

Work out the number of hours of sunshine on Saturday.

- 7 Simon buys some candles.
Each candle costs £2
- Simon pays with a £20 note.
He gets £6 change.
- Work out the number of candles Simon buys.

Write 2 questions in the same format as question 7 but with different values.

- 11** At the end of October, Fiona's electricity meter reads 88 738 kWh.
At the end of November, her electricity meter reads 89 198 kWh.
- Each kWh of electricity Fiona uses costs 16p
- Work out how much Fiona had to pay for the electricity she used in November.

Please act as a coach to help me answer question 11. Don't give the answer but provide prompting questions to allow the students to learn how to answer. Ask questions one by one and use the response to decide next steps.

Upload an image (Copilot, Gemini)

Write me 3 maths questions based on this picture



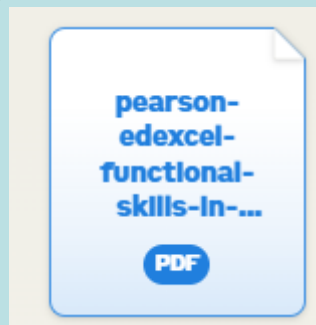
Write 300 words on the Euro football 24.
Include plenty of statistics and numbers.



Write a multi-step maths question based
on this text. Make it suitable for a
functional skills level 1 maths student.

I want to learn how to add fractions. Act as my coach, starting from the basics. Ask me one question at a time to help me learn.

Plan a 2-hour lesson based on calculating percentages. Make it suitable for adult learners studying for a GCSE in maths. Make it interactive and plan for learners with dyscalculia.



Please plan a 20 week scheme of learning for the L1 spec for functional skills maths in this document



padlet



lumen5



Gamma

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About MEI

- Registered charity committed to improving mathematics education
- Independent UK curriculum development body
- We offer continuing professional development courses, provide specialist tuition for students and work with employers to enhance mathematical skills in the workplace
- We also pioneer the development of innovative teaching and learning resources