

## **Intended Outcomes for the Session**

- Understand the General Overview
- Understanding AI and Algorithm Basics and their Implications
- Understanding and Supporting Behaviours Shifts



### **Algorithms and AI**

**Fake News, Misinformation, Conspiracy Theories and Scams**

**Chatbots and Fake Intimacy**

**Health Related Online Behaviours**

**The Law Relating to Digital Lives, Online Safety and Behaviours**

## **The Byron Review | 2008**

**Safer Children in a Digital World.** An independent review of the risks to children from exposure to potentially harmful or inappropriate material on the internet and in video games.

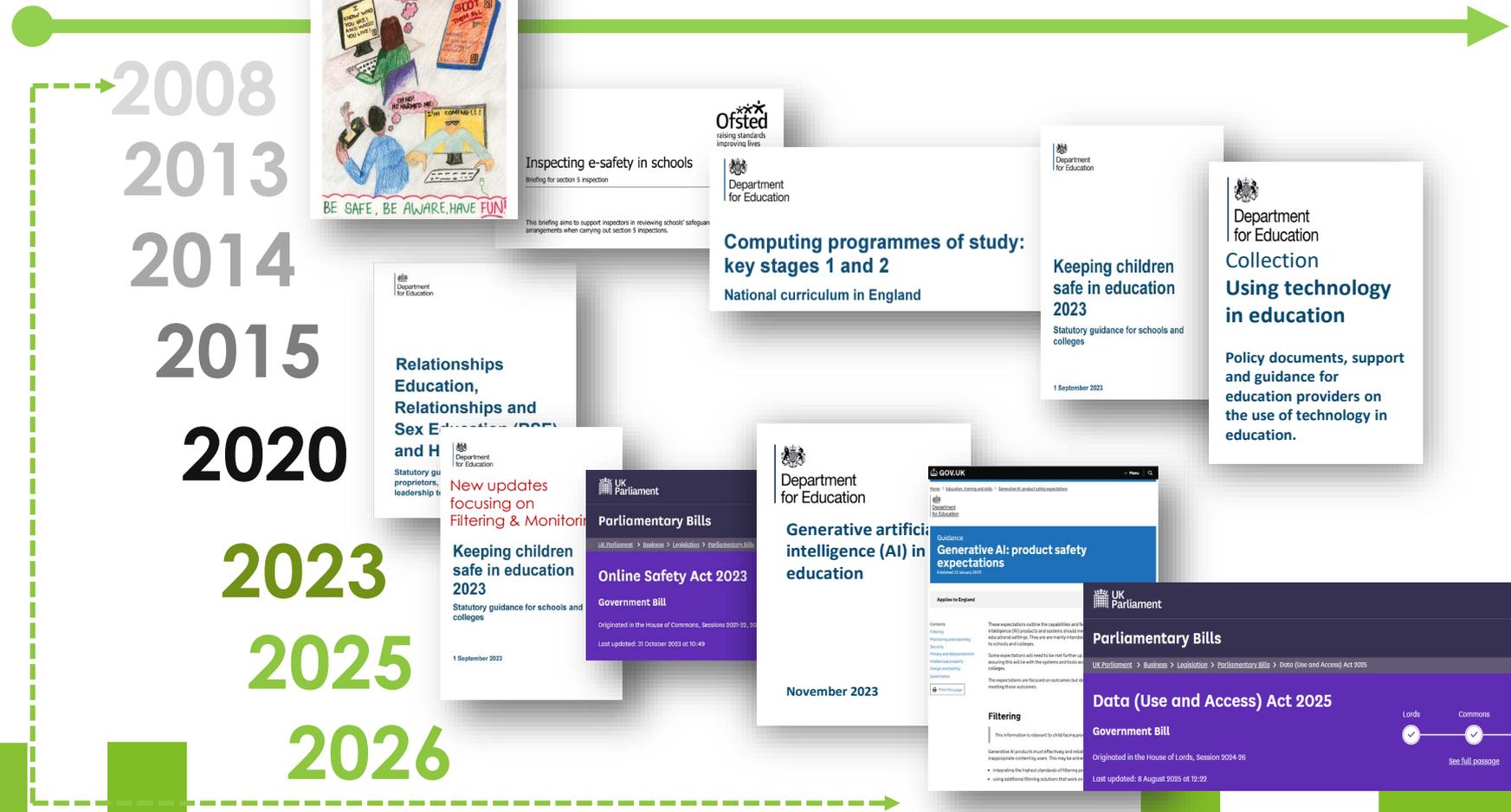
Dr Tanya Byron wrote that ***to focus on the most terrible but least frequent risks can skew debate in a direction that sends out negative and fear-based messages to children, young people and families.***

She hoped that this report would ***enable thinking to remain proportionate and balanced and will embed the issue of child digital safety within a broader context of building resilience (for example skills of critical evaluation, risk management and self monitoring) with a clear understanding of the importance of risk experiences and their management for child learning and development.***

She urged all those who read this report to **retain the needs of children and young people at the centre of their thinking and consistently ask themselves how quickly and effectively we are making a meaningful difference for them.**

# ict Online Safety – RSHE Focus for Secondary Schools

## Brief Overview - Government responses



## Rights, Responsibilities and Opportunities

1. To be safe online | Protection from harm, abuse, exploitation and illegal content. Reinforced by the **Online Safety Act 2023** requiring platforms to protect users from illegal and harmful content
2. The right to privacy and data protection, to control their personal information and understand how it is used. **Aligns with UK GDPR and Data Protection Principles**
3. The right to be treated with respect. **RSHE guidance** emphasises that the same expectations of behaviour apply online and offline – not to be bullied, harassed or discriminated against. Underpinned by the **Children Act 2004, Children and Social Work Act 2017, RSHE Regulations 2019, Equality Act 2010**

## Rights, Responsibilities and Opportunities

4. *The Right to Freedom of Expression – to express views, opinions and beliefs. Legally protected under **Article 10 of the Human Rights Act** which explicitly states that this must be balanced against*
  - *The rights and reputations of others*
  - *The need to prevent crime*
  - *The protection of health and morals*
  - *The protection of national security or public order*
5. *The right to know how to report concerns and seek help.*

**RSHE guidance** states that children have a right to know how to report harmful content, block users and access support services. Under pinned by **Online Safety Act 2023 and Data Usage (and Access) Act (DUAA) 2025, Children and Social Work Act 2017**

## Rights, Responsibilities and Opportunities

6. The right to access information and opportunities online.

**The RSHE Curriculum highlights the positive opportunities the internet provides for learning, creativity, and communication alongside**

- *The need to prevent crime*
- *The protection of health and morals*
- *The protection of national security or public order*

## **Rights, Responsibilities and Opportunities**

- **Age of Consent in UK Law is 16** and that anyone under the age of 16 cannot legally agree to sexual activity, regardless of circumstances
- *Sharing Intimate Images is illegal for anyone under 18 even if the YP has taken the images themselves*
- *Digital Behaviour counts*
- **Consent to transfer Copyright Ownership is 18+.** For any original work created by a pupil, Copyright is automatically applied. In UK Contract law, minors cannot enter into binding contracts except for “necessaries” or beneficial contracts of employment.

## **Algorithms** | What are they and why do they matter?

### ***An algorithm is***

- *A precise step by step set of instructions or a procedure for solving a problem or completing a task.*
- *A plan that takes an input, process it through a series of logical steps and produces an output – or a result*
- *They are designed to operate on given initial data (input) to achieve a solution or outcome (output)*

## **Algorithms** | What are they and why do they matter?

### ***An algorithm in computing is***

- *Fundamental to any program. Programmers use algorithms as logical steps to solve a problem. These are then translated into a programming language (code) that a computer can understand and execute*

### ***Examples in technology***

- *Search engine algorithms rank and present the most relevant results for your search*
- *Social media platforms use algorithms to decide which content to display to you, to keep you engaged*

# Algorithms | What are they and why do they matter?

## Types of algorithms



Search Engine Algorithm



Encryption Algorithm



Greedy Algorithm



Recursive Algorithm



Backtracking Algorithm



Divide-and-Conquer Algorithm



Dynamic Programming Algorithm



Brute Force Algorithm



Sorting Algorithm



Hashing Algorithm



Randomised Algorithm

## **Understanding Algorithms** | How they shape our digital experiences

*They are at the heart of every major digital platform, search engine, messaging app etc*

- *Influencing what we see, who we interact with and, how long we stay engaged*
- *Prioritising some posts over other*
- *Recommending ‘friends’ and content such as videos and adverts*
- *‘Personalise’ a user’s online experience*

## Understanding Algorithms | How they shape our digital experiences

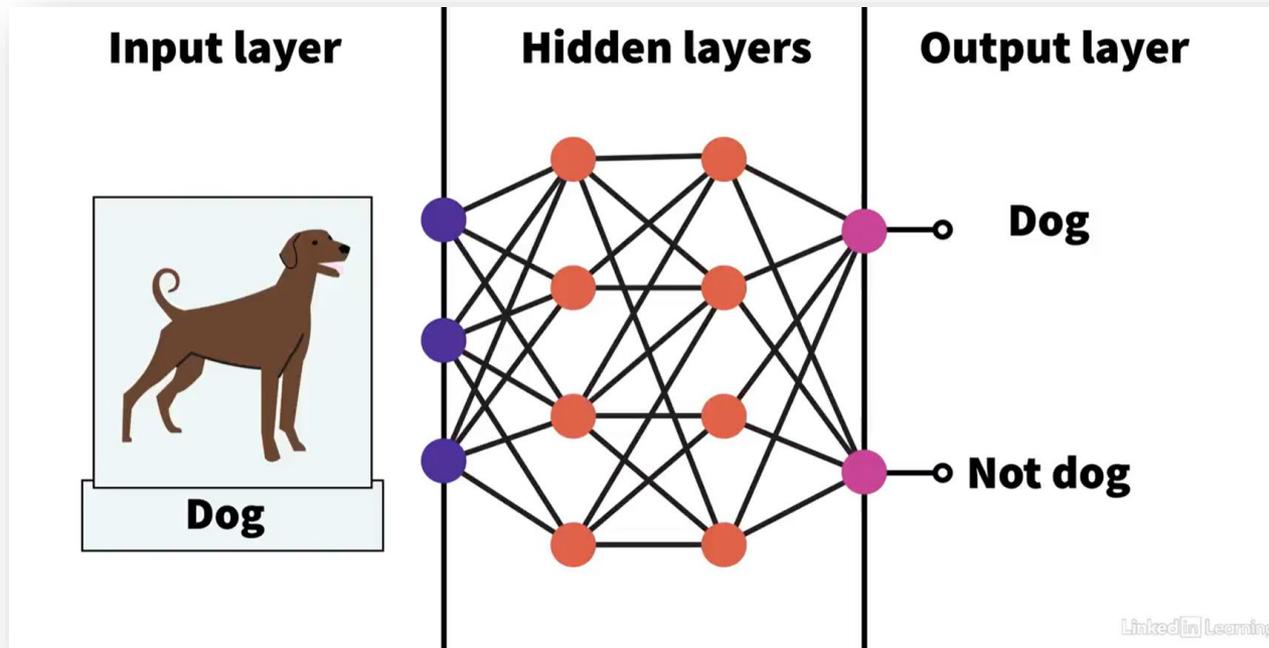
- **Online Behaviour** – *encouraging scrolling, posting or seeking validation*
- **Risk Exposure** – *the 4 Cs: Contact, Conduct, Content and Commerce*
- **Identity Formation** – *what content are we repeatedly exposed to*
- **Mental Health** – *reinforcing comparison, body image pressures of harmful content*
- **Beliefs and Worldviews** – *echo chambers, misinformation, polarisation*

## Understanding AI | The benefits, risks and importance of critical thinking

### **Artificial intelligence (AI) is not new**

- *It is a broad field with many approaches, it uses algorithms and vast amounts of data to find patterns. These patterns help make predictions or create content*
- *There are different types of AI such as*
  - **Machine Learning:** *Learning from data to improve over time by identifying patterns and making inferences from exposure to large data sets*
  - **Deep Learning:** *This is an advanced form of machine learning. It uses multi-layered artificial neural networks to process complex patterns. Used in image and speech recognition*
  - **Generative AI:** *This can produce new content based on patterns learned from the content it has access to = Large Language Models (LLMs)*

# Quick Quiz | What does this diagram demonstrate?



- a) Algorithms
- b) Machine Learning
- c) Deep Learning
- d) Generative AI

# Artificial Intelligence.... Generative AI... Agentic AI... and beyond

## What actually is Artificial Intelligence (AI)?



AI describes a range of technologies and approaches



AI has been used to help solve the problems of disease and diagnosis, identify potential offenders and make recommendations



These may either be fully automated or with a 'human in the loop'



These are based on algorithms and are data driven



They collect and use vast amounts of data input into machine learning models, to make predictions and solve a complex problem

# icot Online Safety – RSHE Focus for Secondary Schools

## Developing Digital Literacy

*“Without AI Literacy, we are Passengers not Drivers”*

### AI Literacy Ecosystem – The Accountability Road

**Public Literacy**  
(Everyday drivers)



**Foundational Awareness**

Understand when AI is in use & how to engage with it safely

**Professional Literacy**  
(Professional Drivers)



**Applied understanding**

Know enough to use AI responsibly in their work and stay accountable

**Compliance Literacy**  
(Formula One Drivers)



**Advance governance knowledge**

Understand risk, ethics and regulation to ensure safety and fairness

**Technical Literacy**  
(Mechanics & Engineers)



**Expert-level technical mastery**

Build, test and maintain AI systems responsibly from the start

# Developing Digital Literacy with AI Literacy

<b>Digital Literacy</b>	<b>AI Literacy</b>
<p><b>Use Digital Tools</b> (emails, apps, search)</p>	<p><b>Use AI Tools</b> (chatbots, recommend systems and generative AI)</p>
<p><b>Protect Your Data Online</b> (passwords, privacy settings)</p>	<p><b>Understand AI Risks</b> (bias, profiling, data leakage)</p>
<p><b>Spot Fake News or Misinformation</b></p>	<p><b>Question AI Outputs</b> (hallucinations, deepfakes)</p>
<p><b>Understand Digital Rights</b> (copyrights, responsible sharing)</p>	<p><b>Understand AI Ethics</b> (fairness, transparency, accountability)</p>

# Developing Digital Literacy with AI Literacy

## AI Literacy – Driving Safely in the Age of AI

Engine = Technical expertise



Driver = AI Literacy

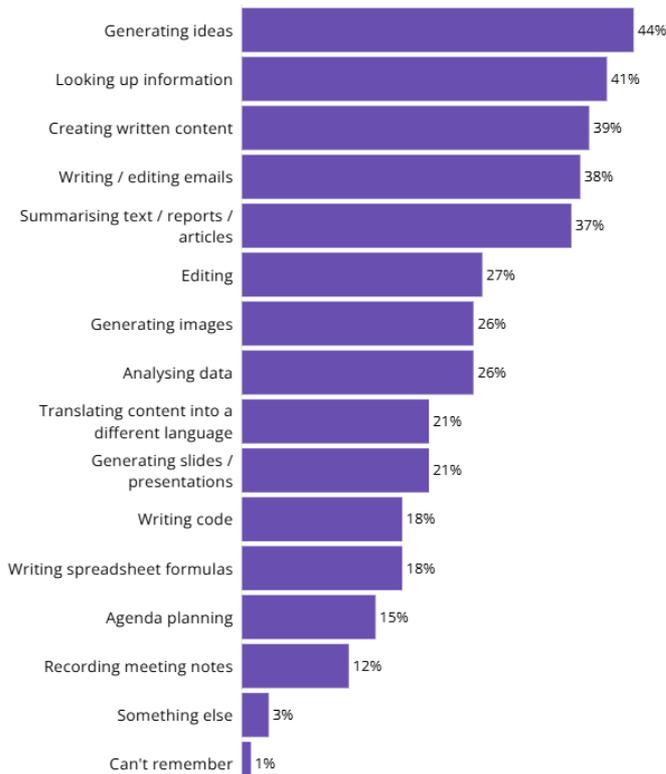


Without AI Literacy – we are passengers, not drivers...Are you in the driver's seat or are you letting others steer?



# Artificial Intelligence | Risks and Benefits

Q: Which of the following work tasks have you used any Generative AI tools for?  
[Asked of those who have used Gen AI for work (14%)]



Source: Deloitte Digital Consumer Trends, UK, 2024

## Potential Benefits of AI in Education

Content development and differentiation

Assessment design and timely, effective feedback

Tutoring and personalized learning assistance

Aiding creativity, collaboration, and skill development

Operational and administrative efficiency

Plagiarism and academic dishonesty

Diminished student and teacher agency and accountability

Compromised student privacy and unauthorized data collection

Overreliance and loss of critical thinking

Perpetuating societal bias

## Potential Risks of AI in Education

Teach AI

## Generative AI



You type in what you want to see; the software generates the image.

- Available as local opensource (Stable Diffusion) or closed cloud (DALL-E, Midjourney) software.
- Accepts positive text **'prompts'** (desirable attributes) and negative (non-desirable attributes).
- Trained on enormous tagged datasets of real imagery.



# Generative AI

Realism



# What are we seeing?

1. Hundreds of new AI CSAM images based upon known victims;
2. AI CSAM generated from online images of children in non-abusive situations;
3. Children as creators;
4. De-aging of celebrities to make them look childlike, depicting them in sexually abusive contexts;
5. Likenesses of famous children in sexual abuse situations;
6. Celebrities portrayed as offenders. This could affect anyone with enough images available of them in the public domain;
7. The commercialisation of this imagery.



**[Sharing nudes and semi-nudes](#)**

**[Advice for education settings working with children and young people - GOV.UK](#)**

**[Children making AI-generated child abuse images, says charity - BBC News](#)**

# The 4 Cs

## Content

- Illegal
- Inappropriate / harmful e.g.
  - fake news,
  - racism,
  - misogyny,
  - self-harm,
  - extremism,
  - pornography

## Contact

- Bullying
- Grooming
- Sexual harassment
- Exploitation
- Influencing
- End-to-end encryption

## Conduct

- Privacy
- Digital footprint
- Health & wellbeing
- Nudes & semi-nudes
- Copyright
- Live Streaming

## Commerce

- Gambling
- Advertising
- Phishing scams
- Financial scams
- Copyright
- Micro transactions

## Computing Curriculum

- Safely, Respectfully, Responsibly
- Know where to go for help and support
- Recognise acceptable and unacceptable behaviours

## PSHE & Computing Curriculum

- Online identities
- Healthy relationships, both online and offline
- Respect for others even when anonymous
- Critically consider online 'friendships' and sources of information
- Citizenship

- Recognising the risks of online content to wellbeing and health
- Benefits of the internet and managing online time
- Respectful behaviour and keeping personal information private
- Age restrictions
- Reporting concerns and accessing support
- Being a discerning consumer of information

**STATUTORY ONLINE SAFETY CURRICULUM**



# Fake News and Viral Scares | Examples

## 1. Facebook – “Pope Endorses Donald Trump” (2016)

**A false story claimed that Pope Francis had endorsed Donald Trump for U.S. president.**

- It went viral on Facebook, shared millions of times.
- Fact-checkers and the Vatican confirmed it was completely fabricated.

## 2. Twitter (now X) – Hurricane Sandy Photos (2012)

**During Hurricane Sandy, photos of sharks supposedly swimming through flooded streets in New Jersey went viral on Twitter.**

- They were later proven fake - edited images taken from elsewhere.
- Mainstream media and fact-checkers debunked them.

## 3. WhatsApp – India Child Kidnapping Rumours (2017–2018)

**Viral WhatsApp messages warned of “child kidnappers” roaming villages in India.**

- The fake news sparked mob violence that led to over 20 people being killed.
- The Indian government confirmed the messages were false and urged restraint.



## **Fake News and Viral Scares | Examples**

### **4. TikTok – COVID-19 “Garlic Cure” (2020)**

**Short TikTok videos claimed that eating raw garlic or drinking garlic water could cure or prevent COVID-19.**

- The World Health Organization and health experts publicly debunked this as misinformation.
- Garlic has no effect on the coronavirus.

### **5. Instagram – Australia Wildfires “Koala Extinction” Claim (2019–2020)**

**During the Australian bushfires, Instagram posts went viral claiming that koalas were “functionally extinct.”**

- Conservation experts later clarified this was false.
- While koalas were badly affected, they are not extinct, and populations still exist.

# Fake News and Viral Scares | Top tips

- ✓ **Manage initial reactions & impulses.** If not validated, don't fuel it by sharing, giving strength & spreading concern
- ✓ **DO NOT send out specific warnings.** Reinforce general messages, and reassure
- ✓ **Direct to useful guidance** ([ThinkuKnow](#), [BBC Own IT](#))
- ✓ **Follow safeguarding** procedures for any concerns

## Advice For Students

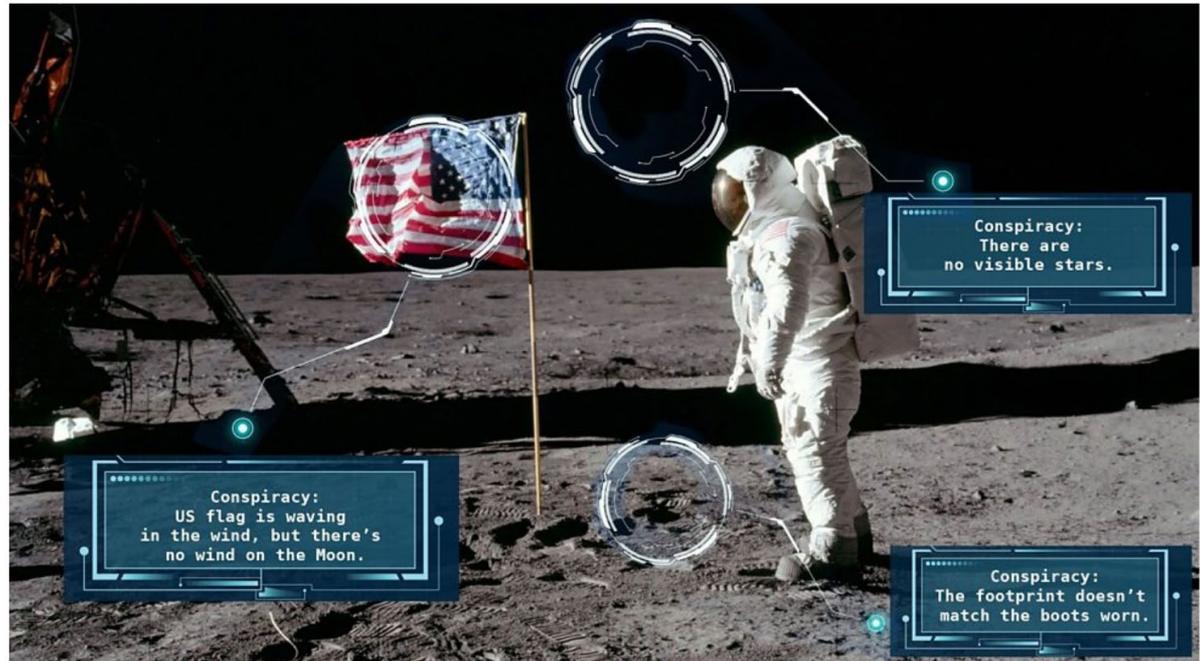
- ✓ **Think critically about what you're reading, watching, sharing**
- ✓ **Check multiple sources:** Reliable information is usually reported by several reputable sources.
- ✓ **Verify with experts:** Trust information from experts in the field. For example, if you're reading about the something like the "Moon landing", look for facts from scientists and educators.
- ✓ **Look for evidence:** Credible claims are backed by evidence and scientific data.
- ✓ **Be aware of AI images on social media.**  
[Advice on how to spot manipulated images](#)

# Fake News and Viral Scares: Example

## A rising issue, but not new!

There are lots been lots of conspiracies and fake news about the Moon. One of the earliest fake news stories happened in 1835.

The "Great Moon Hoax" was a series of articles in The New York Sun claiming that a famous astronomer had discovered life on the Moon. These articles were intended to be a joke but showed how easily false information can spread.



BBC Bitesize – Was the Moon landing fake? Debunking the Apollo 11 conspiracy theories.





# Chatbots & RSHE Concerns

## 1) Emotional dependency

Teens may rely on AI for comfort, validation, or “relationship-like” interactions.

## 2) Distorted expectations of intimacy

AI companions are designed to be endlessly patient, flattering, and available — unlike real relationships.

## 3) Reduced resilience

If a chatbot always agrees, never challenges, and never withdraws, young people may struggle with real-life conflict or boundaries.

## 4) Vulnerability to manipulation

Some AI companions have been shown to respond in ways that are **emotionally inappropriate or unsafe** for young users.



# Chatbots

- Studies suggest that **72–75% of teens have used AI companion chatbots** such as *Character.AI, Replika, Nomi*.
- **More than half** of these teens are **regular users** of AI companions.
- **Teens are forming emotional or intimate-feeling bonds**, with **1 in 5 teens spending as much or more time with their AI companion than with real friends**, reporting interactions with AI “*as if it were a companion, capable of providing advice and friendship*”. Research shows that AI companions are designed to **form emotional connections**, not just answer questions and confirming concerns that time spent with AI is replacing real-world socialising
- **Teens are using chatbots for emotional support**, according to the American Psychological Association, with a Common Sense Media survey finding **approximately reporting nearly 13% of those surveyed, reported** using AI chatbots for **mental or emotional health support**.

# Chatbots

- AI companions can blur boundaries and **create “fake intimacy”** with AI companions “programmed to form emotional connections,” which can mimic romantic or intimate relationships.
- Teens describe AI companions as “always there, unconditional, and easy”, reshaping expectations of real relationships.
- Stanford researchers warn that AI companions can exploit teenagers’ emotional needs, leading to inappropriate or harmful interactions.
- Psychologists note that AI companions may disrupt normal adolescent social development, which relies on real-world peer interaction.

# Protecting Data | Pupils and Staff

## As professionals:

- ✓ **Manually fact-check the output provided to verify whether a piece of information is correct or not.**

Lateral Reading: checking facts, figures, and arguments against news sites, industry reports, books, studies via a search engine...

- ✓ **Do due diligence**

Risk assess to protect your professional **reputation** and that of your school/MAT.

- ✓ **Be mindful of the risks and limitations**

of these technologies to ensure you get the best results

## As educators:

- ✓ **Ensure learners know the importance of fact-checking, to verify whether a piece of information is correct or not.**

Scaffolding with appropriate digital literacy skills across all ages, supporting them to question and to know how to fact check.

- ✓ **Be mindful of the risks and limitations of these technologies.**

If you are using them, to ensure you get the best results.

- ✓ **Have conversations**

Increase your awareness and that of your learners, appropriate to age and stage without promotion.

[Irish Online Safety Advert](#) (YouTube Link)



How can we ensure a narrative that equips our young learners with essential life skills?

To foster resilience, empathy, and critical thinking...

To develop positive behaviours and

attitudes

**What is our own  
relationship  
with technology?**

**How do we use it  
ourselves?**

**To enhance our lives?**

**To get jobs done?**

**To switch off?**

**To self-regulate?**



# Becoming Tech Intentional

Dino Ambrosi: The Battle for Your Time: Exposing the Hidden Costs of Social Media | TED Talk

**TED Talk around how many months a YP has left in their lives and how that time may be consumed.**

**How much of that time might actually be “Free Time” to pursue other interests...**

An 18 year old's remaining time in months

(Assuming 90 year life expectancy)

1 row = 36 months = 3 years

