

AI & the Future of Education

What is Artificial
Intelligence?



What Isn't
Artificial
Intelligence?

Garry Kasparov vs

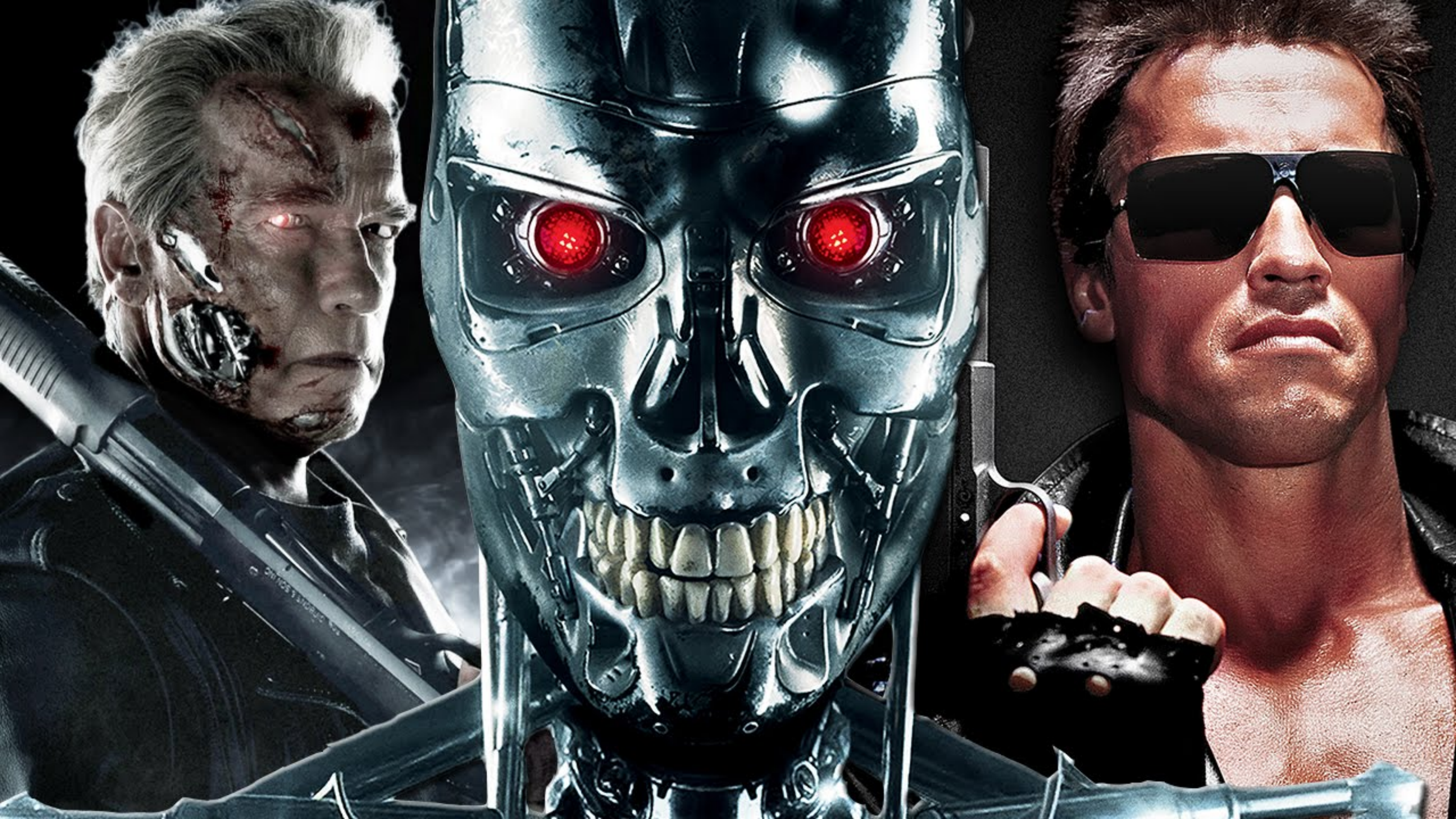




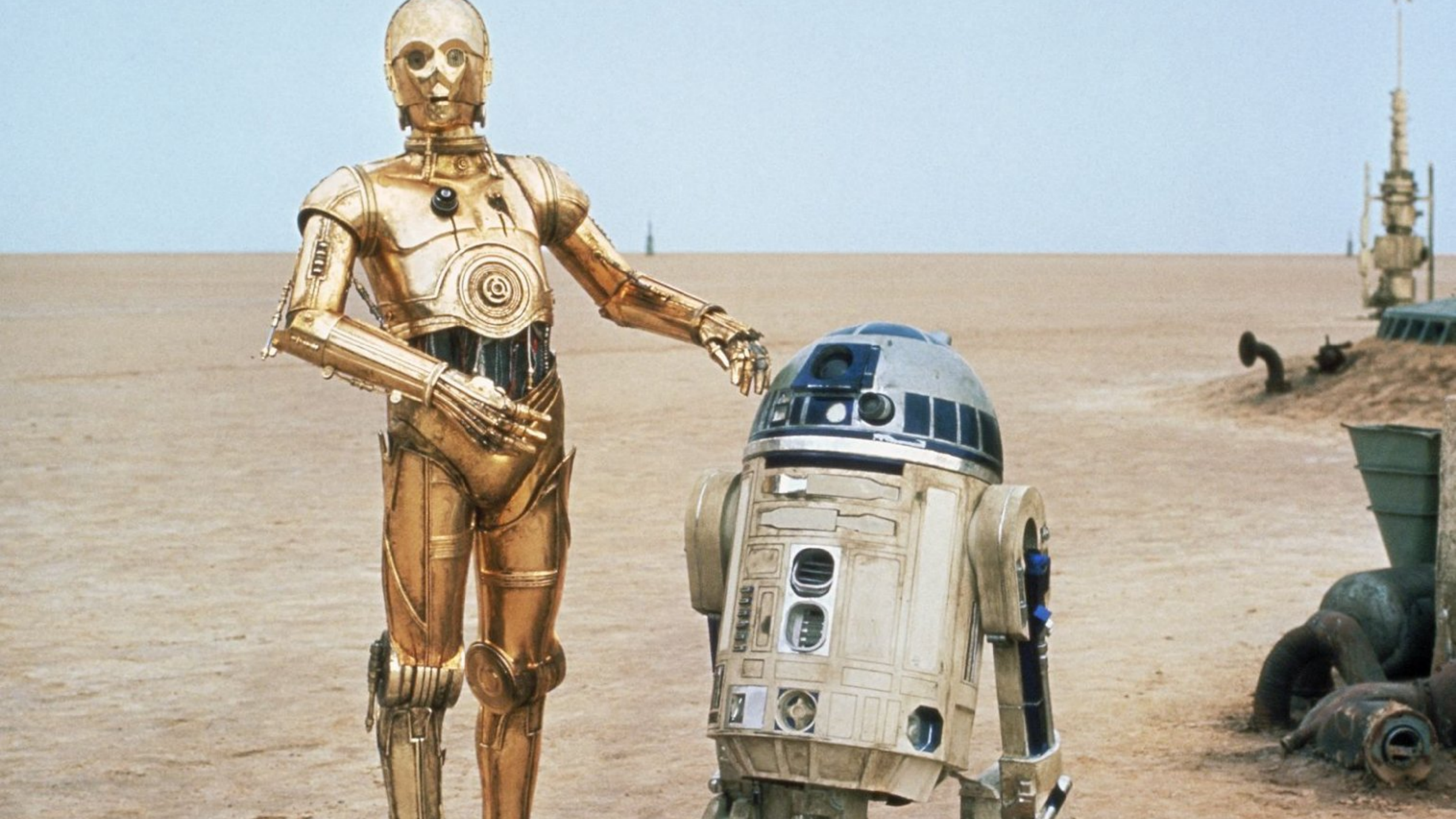


```
b]())}var c=function(b){this
down-menu"),d=b.data("target");if(d||(d=b.attr("href"),d=d&&d.replace(/#/,
a"),f=a.Event("hide.bs.tab",{relatedTarget:b[0]}),g=a.Event("show.bs.tab",{relatedTarget:e[0]}),
ltPrevented()){var h=a(d);this.activate(b.closest("li"),c),this.activate(h,h.parent(),function
nger({type:"shown.bs.tab",relatedTarget:e[0]}))}}},c.prototype.activate=function(b,d,e){fun
.active").removeClass("active").end().find('[data-toggle="tab"]').attr("aria-expanded",!1)
-expanded",!0),h?(b[0].offsetWidth,b.addClass("in")):b.removeClass("fade"),b.parent(".dropd
find('[data-toggle="tab"]').attr("aria-expanded",!0),e&&e())}var g=d.find("> .active"),h=e&&
)!!!d.find("> .fade").length);g.length&&h?g.one("bsTransitionEnd",f).emulateTransitionEnd
r d=a.fn.tab;a.fn.tab=b,a.fn.tab.Constructor=c,a.fn.tab.noConflict=function(){return a.fn.
ow");a(document).on("click.bs.tab.data-api",[data-toggle="tab"],e).on("click.bs.tab.dat
strict";function b(b){return this.each(function(){var d=a(this),e=d.data("bs.affix"),f="o
peof b&&e[b]())}var c=function(b,d){this.options=a.extend({},c.DEFAULTS,d),this.$target=
a.proxy(this.checkPosition,this)).on("click.bs.affix.data-api",a.proxy(this.checkPosition
1,this.pinnedOffset=null,this.checkPosition());c.VERSION="3.3.7",c.RESET="affix affix-top
ate=function(a,b,c,d){var e=this.$target.scrollTop(),f=this.$element.offset(),g=this.$tar
ottom"==this.affixed)return null!=c?!(e+this.unpin<=f.top)&&"bottom":!(e+g<=a-d)&&"bottom
c&&e<=c?"top":null!=d&&i+j>=a-d&&"bottom"},c.prototype.getPinnedOffset=function()
RESET).addClass("affix");var a=this.$target.scrollTop(),
hEventLoop=function(){setTimeout(
,height()
```


Where Are We
Right Now?







What is the
future of AI &
education

$$2+2=4$$





**1. Artificial intelligence
can automate basic
activities
in education, like
grading.**



组屋
弟

Whooooo

Sorry
对不起

put your
hand up

littleBits
10 bits





AUTOMATED ESSAY SCORING

meaning, definition, explanation...

Formative Feedback

- **Automated essay scoring**
 - Students submit essay drafts to receive predicted scores.
 - Students can revise and resubmit multiple drafts.

Evidence to Consider:

Based on your predicted score, I suggest you:

- Check out Students: Demographics on the school site.
- Check out Students: Performance on the school site.
- Check out Technology Infrastructure: Classroom Based Facilities on the school site.
- Check out Technology Infrastructure: School Wide Facilities on the school site.
- Check out Curriculum and Assessment: Classroom Pedagogy and Assessment on the school site.
- Check out Curriculum and Assessment: Instructional Sequence on the school site.
- Check out Curriculum and Assessment: Standards on the school site.

R
U
B
R
I
C

Score: 0	Score: 1	Score: 2
Does not identify aspects of case information, including appropriate technology uses, to help differentiate instruction	Identifies aspects of case information, including appropriate technology uses, without explanation or examples of how these help differentiate instruction	Identifies aspects of case information, including appropriate technology uses, with explanation or examples of how these help differentiate instruction
Your predicted score		

Identify case information that must be considered in a decision about using technology to meet your learners' diverse needs.

Your answer:

To determine how to use technology to improve instruction, you must first know your students' needs. It is then important to be clear about what the curriculum you are to teach, so you know what they have to learn. Next, you should determine how your students are doing learning this content so far through some assessments. Then, when you know what the learning goals are for your students, you can determine what technology is available to help them.

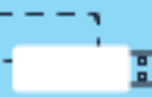
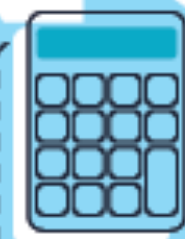
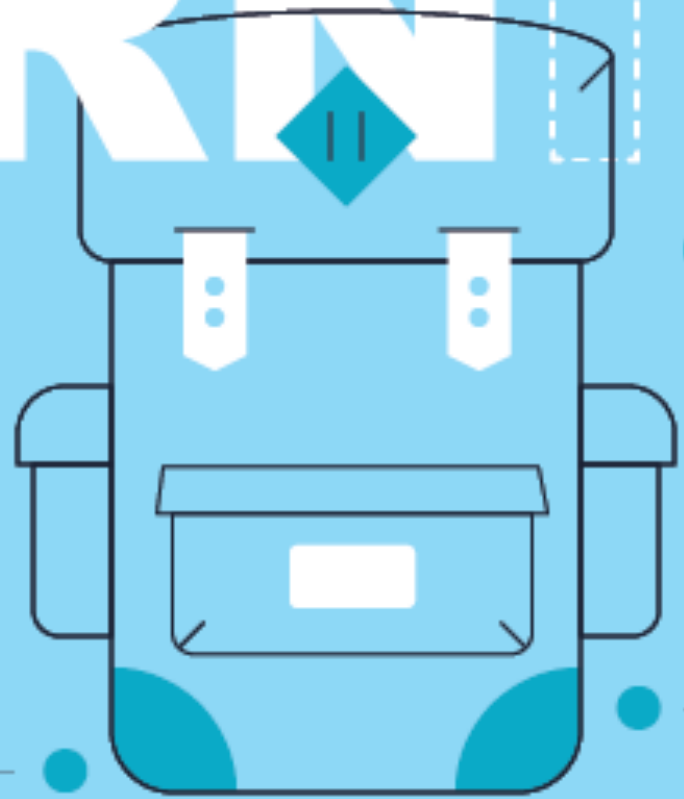
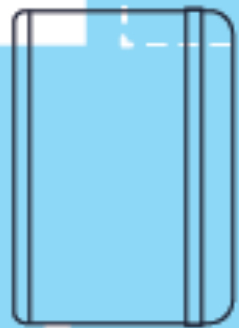
**2. Educational software
can be adapted to
student needs.**



Translation



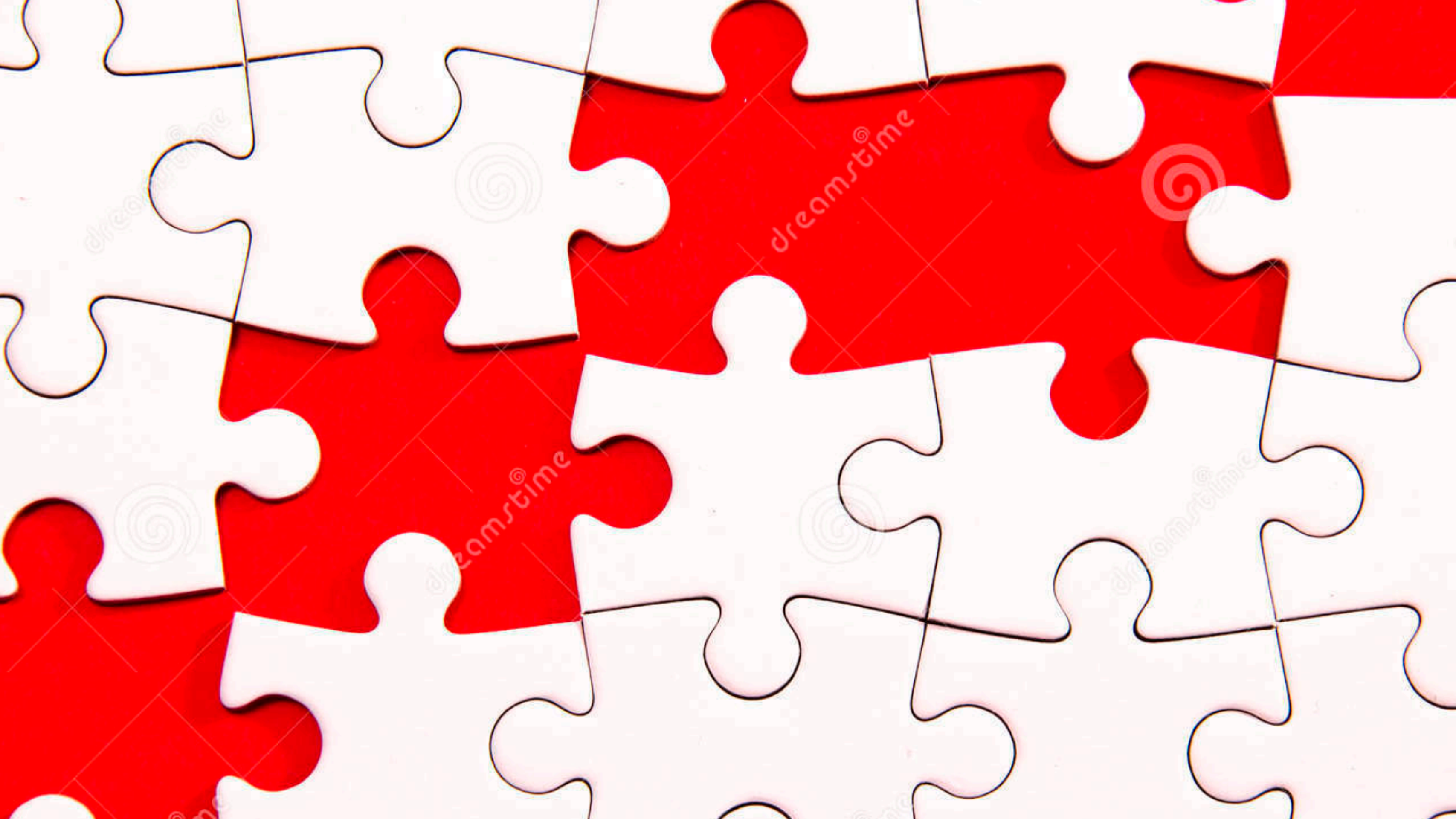
ADAPTIVE LEARNING



3. AI can point out places where courses need to improve.

coursera

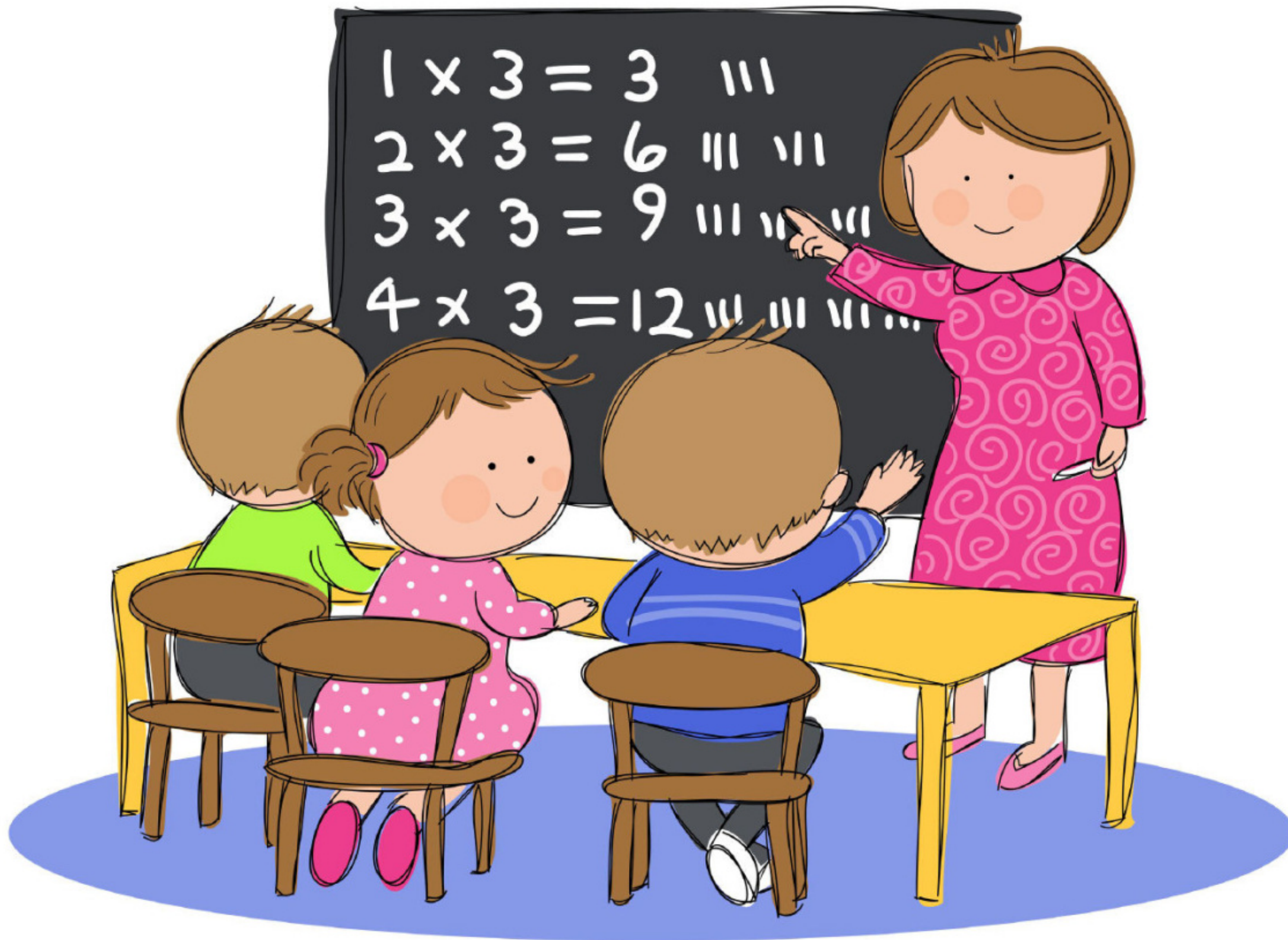




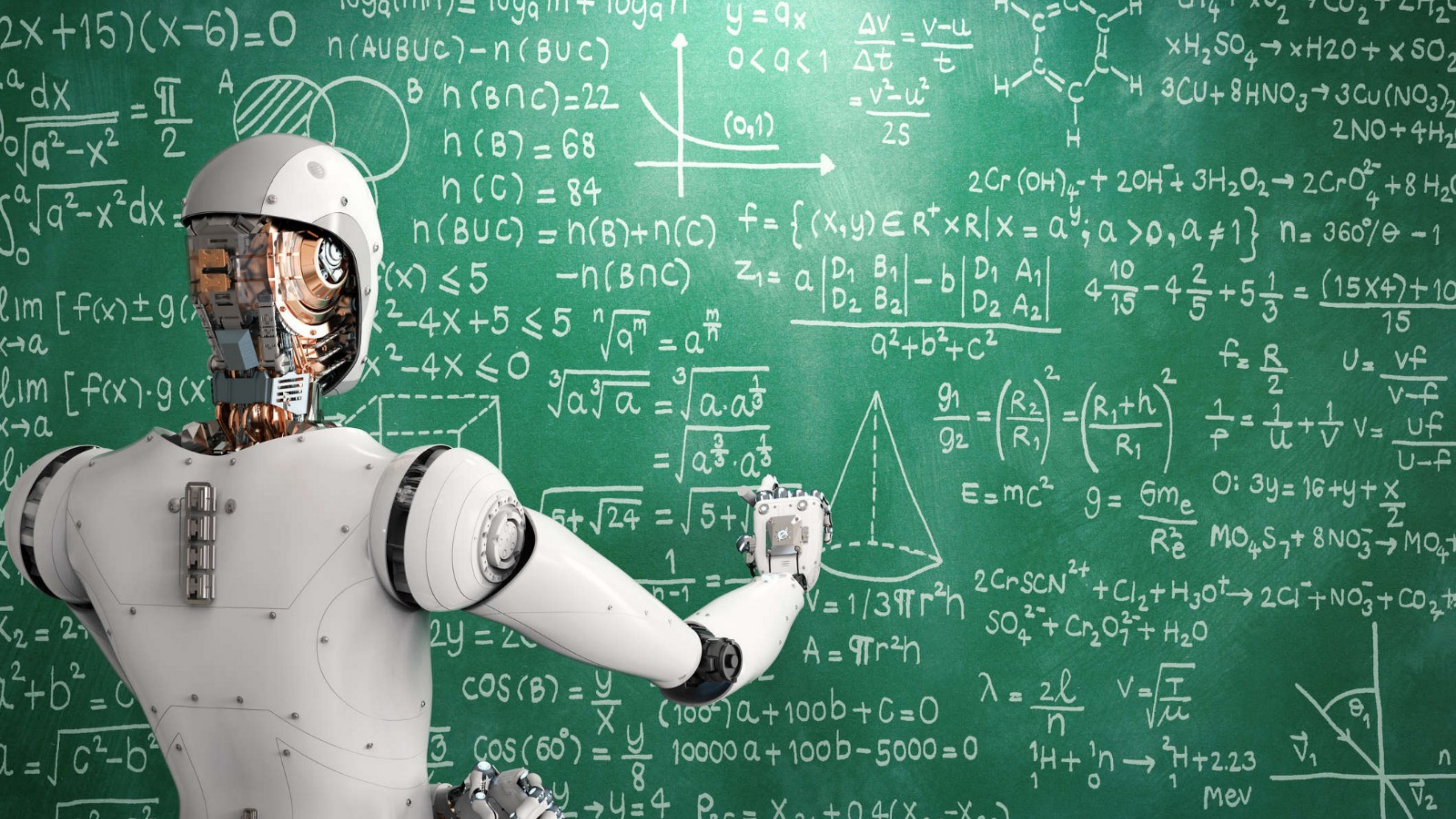


4. Students can get additional support from AI tutors.



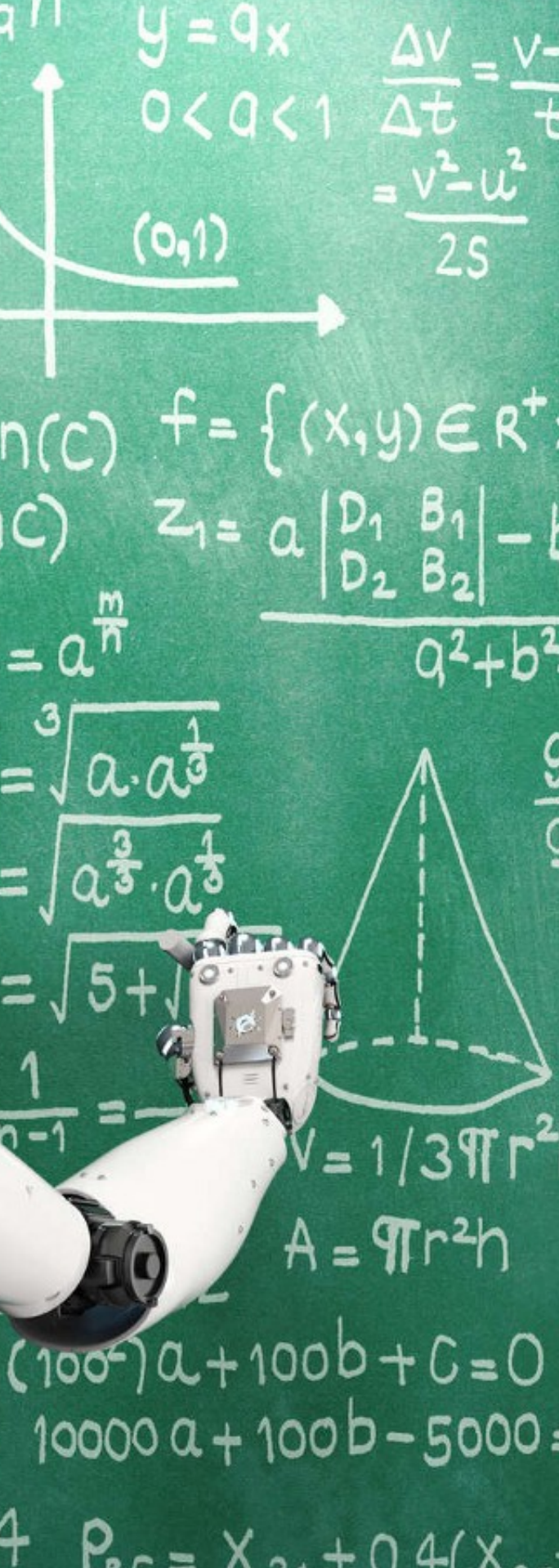


$1 \times 3 = 3$ |||
 $2 \times 3 = 6$ ||| |||
 $3 \times 3 = 9$ ||| ||| |||
 $4 \times 3 = 12$ ||| ||| ||| |||



$$2x + 15)(x - 6) = 0$$
$$\int \frac{dx}{\sqrt{a^2 - x^2}} = \frac{\pi}{2}$$
$$\int_0^a \sqrt{a^2 - x^2} dx = \frac{\pi a^2}{4}$$
$$\lim_{x \rightarrow a} [f(x) \pm g(x)] = \lim_{x \rightarrow a} f(x) \pm \lim_{x \rightarrow a} g(x)$$
$$\lim_{x \rightarrow a} [f(x) \cdot g(x)] = \lim_{x \rightarrow a} f(x) \cdot \lim_{x \rightarrow a} g(x)$$
$$k_2 = 27$$
$$a^2 + b^2 = c^2$$
$$a = \sqrt{c^2 - b^2}$$

$$\log_a(mn) = \log_a m + \log_a n$$
$$n(A \cup B \cup C) - n(B \cup C)$$
$$n(B \cap C) = 22$$
$$n(B) = 68$$
$$n(C) = 84$$
$$n(B \cup C) = n(B) + n(C) - n(B \cap C)$$
$$f(x) \leq 5$$
$$x^2 - 4x + 5 \leq 5$$
$$x^2 - 4x \leq 0$$
$$\sqrt[n]{a^m} = a^{\frac{m}{n}}$$
$$\sqrt[3]{a^3 a} = \sqrt[3]{a \cdot a^3}$$
$$= \sqrt[3]{a^3 \cdot a^1}$$
$$5 + \sqrt{24} = \sqrt{5 + \sqrt{24}}$$
$$\frac{1}{n-1}$$
$$2y = 20$$
$$\cos(B) = \frac{y}{x}$$
$$\cos(60^\circ) = \frac{y}{8}$$
$$y \rightarrow y = 4$$
$$P_{2,3} = x_2 + 0.4(x_1 - x_2)$$



$$0 < a < 1$$
$$\frac{\Delta v}{\Delta t} = \frac{v-u}{t}$$
$$= \frac{v^2 - u^2}{2s}$$
$$H-C=C-H$$
$$H-C=C-H$$
$$3Cu + 8HNO_3 \rightarrow 3Cu(NO_3)_2 + 2NO + 4H_2O$$
$$2Cr(OH)_4^- + 2OH^- + 3H_2O_2 \rightarrow 2CrO_4^{2-} + 8H_2O$$
$$f = \{(x, y) \in \mathbb{R}^+ \times \mathbb{R} \mid x = a^y; a > 0, a \neq 1\}$$
$$n = 360^\circ / \theta - 1$$
$$z_1 = a \frac{\begin{vmatrix} D_1 & B_1 \\ D_2 & B_2 \end{vmatrix} - b \begin{vmatrix} D_1 & A_1 \\ D_2 & A_2 \end{vmatrix}}{a^2 + b^2 + c^2}$$
$$4 \frac{10}{15} - 4 \frac{2}{5} + 5 \frac{1}{3} = \frac{(15 \times 4) + 10}{15}$$
$$f = \frac{R}{2}$$
$$u = \frac{vf}{v-f}$$
$$\frac{1}{p} = \frac{1}{u} + \frac{1}{v} \quad v = \frac{uf}{u-f}$$
$$E = mc^2$$
$$g = \frac{6m_e}{R_e^2}$$
$$O: 3y = 16 + y + \frac{x}{2}$$
$$MO_4S_7 + 8NO_3^- \rightarrow MO_4 + \dots$$
$$2CrSCN^{2+} + Cl_2 + H_3O^+ \rightarrow 2Cl^- + NO_3^- + CO_2 + \dots$$
$$SO_4^{2-} + Cr_2O_7^{2-} + H_2O$$
$$V = \frac{1}{3} \pi r^2 h$$
$$A = \pi r^2 h$$
$$\lambda = \frac{2l}{n}$$
$$v = \sqrt{\frac{T}{\mu}}$$
$$(100^\circ) a + 100b + c = 0$$
$$10000a + 100b - 5000 = 0$$
$${}^1_1H + {}^1_0n \rightarrow {}^2_1H + 2.23 \text{ MeV}$$

A diagram showing a vector \vec{v}_1 and a vector \vec{v}_2 originating from the same point. The angle between them is labeled θ_1 .

**5. AI-driven programs
can give students &
educators helpful
feedback**

FEEDBACK









Success

Struggle

6. It is altering how we find & interact with information.

Google

The image shows three computer monitors in a row, each displaying the Amazon logo. The logo consists of the word "amazon" in a bold, black, sans-serif font, with a yellow curved arrow underneath it that starts under the letter 'a' and ends under the letter 'z'. The monitors are arranged in a perspective view, with the one in the foreground being the most prominent and in sharp focus, while the two behind it are progressively more blurred. The background is dark, and there are some out-of-focus lights visible at the top of the frame.

amazon

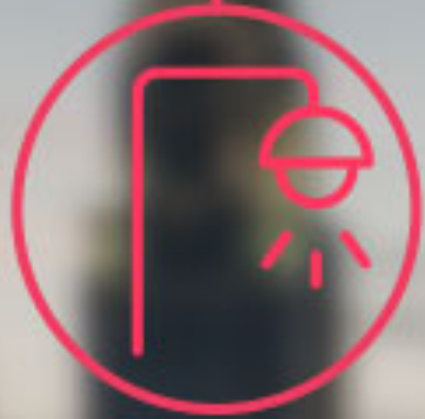
amazon

amazon

What can I help
you with?



interact





**7. It could change the
role of teachers.**

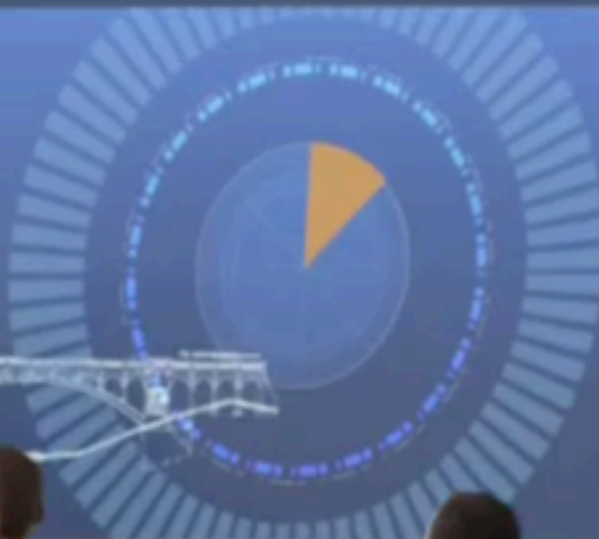
9:15 AM

SciApp

SCIENCE ROOM 04

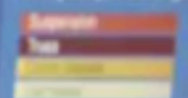
BRIDGE THE GAP

Science: Modern Bridges
The design of a bridge is a complex task that involves many factors, including the type of bridge, the materials used, and the environment in which it will be built.



Mr. Rubio
8th Grade Science
Monday, May 14
9:15 am

Question of the Day
Strongest type of bridge?



Calendar

Class Resources

Announcements

Class Duties







MOTIVATOR



GUIDE



QUESTIONER



BRIDGE BUILDER



CLAIRVOYANT



PEACEMAKER



TASKMASTER



PRAISER

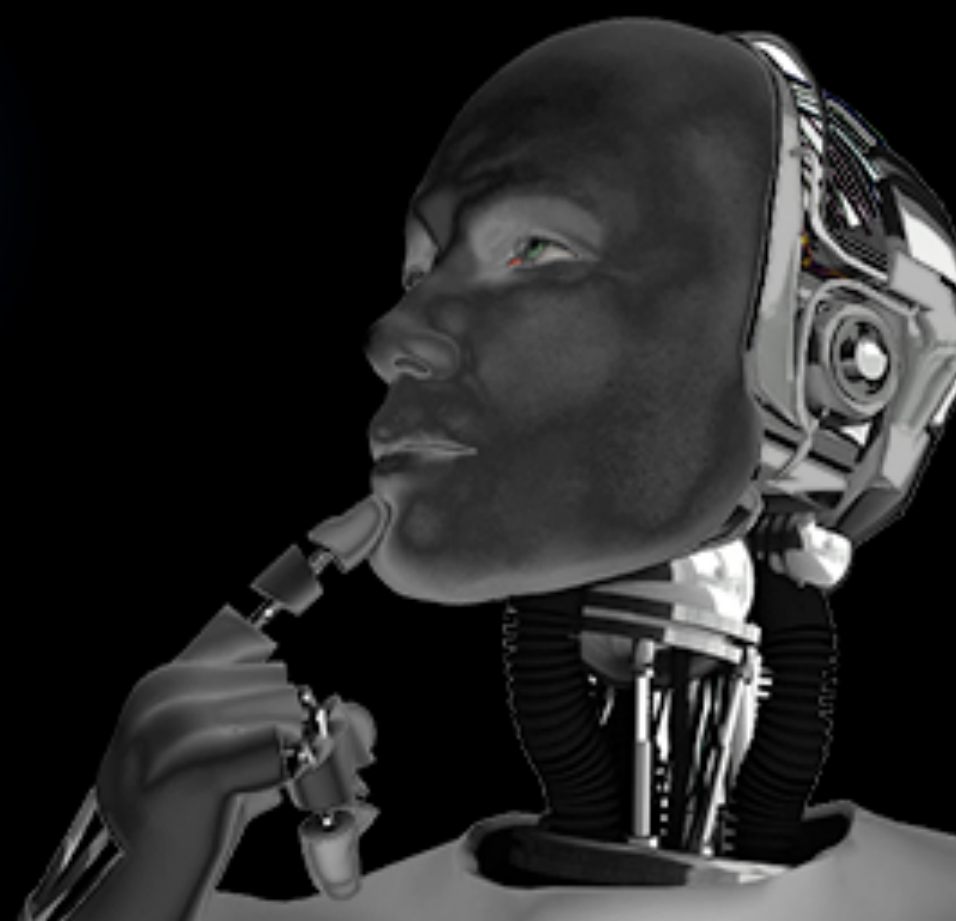


8. AI can make trial-and-error less intimidating.



ON THE SPOT

Artificial Intelligence



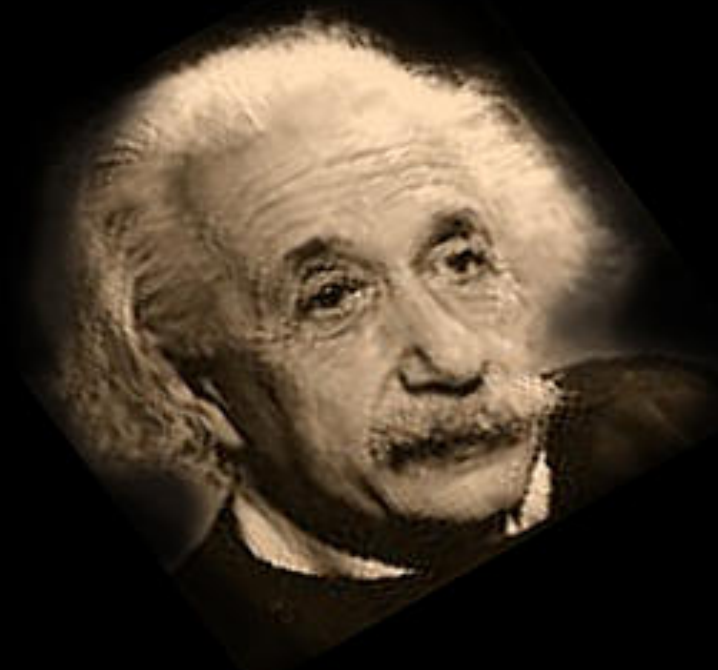


$$\cancel{A=MC^2}$$

$$\cancel{B=MC^2}$$

$$\cancel{C=MC^2}$$

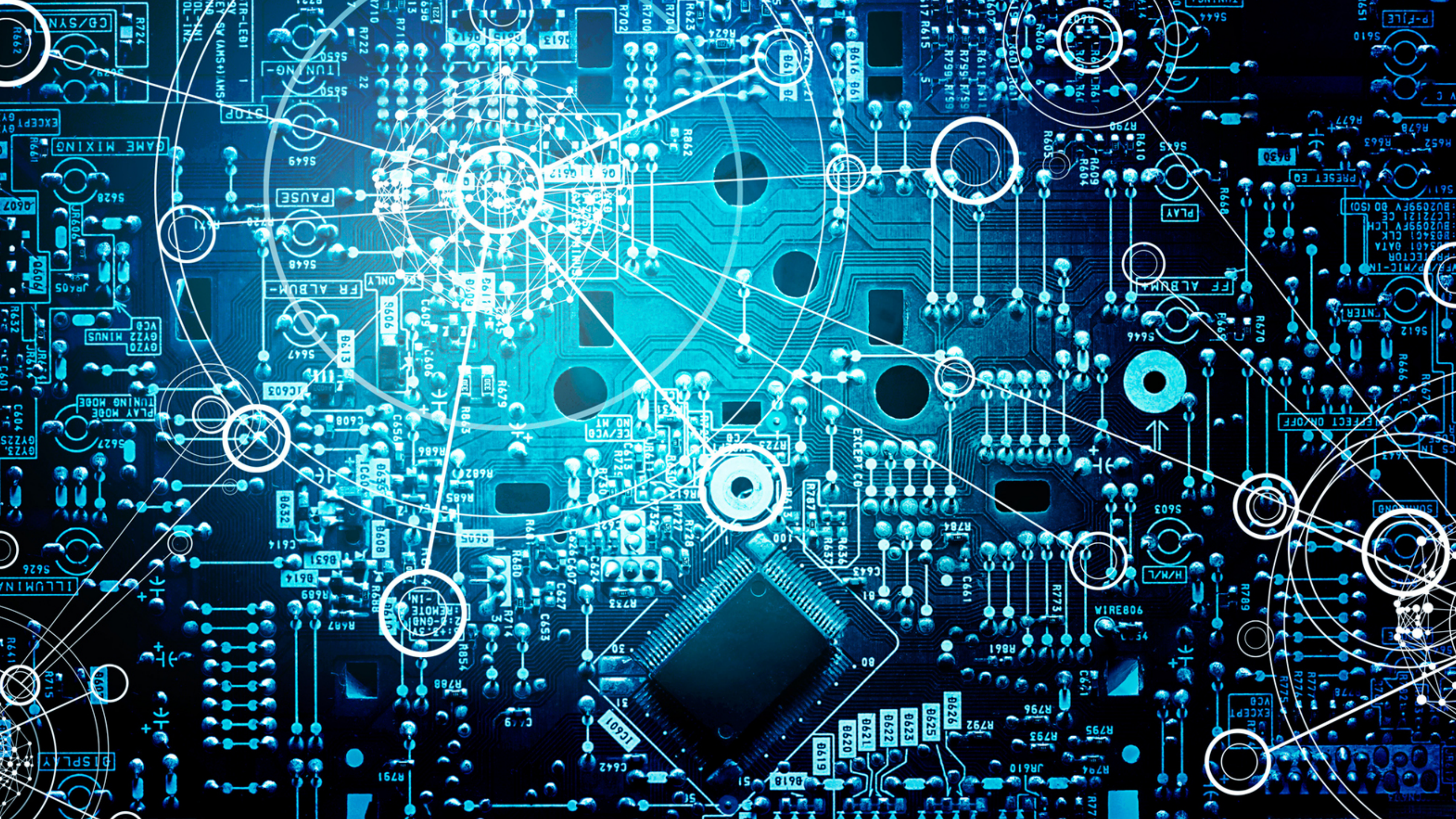
$$\cancel{D=MC^2}$$

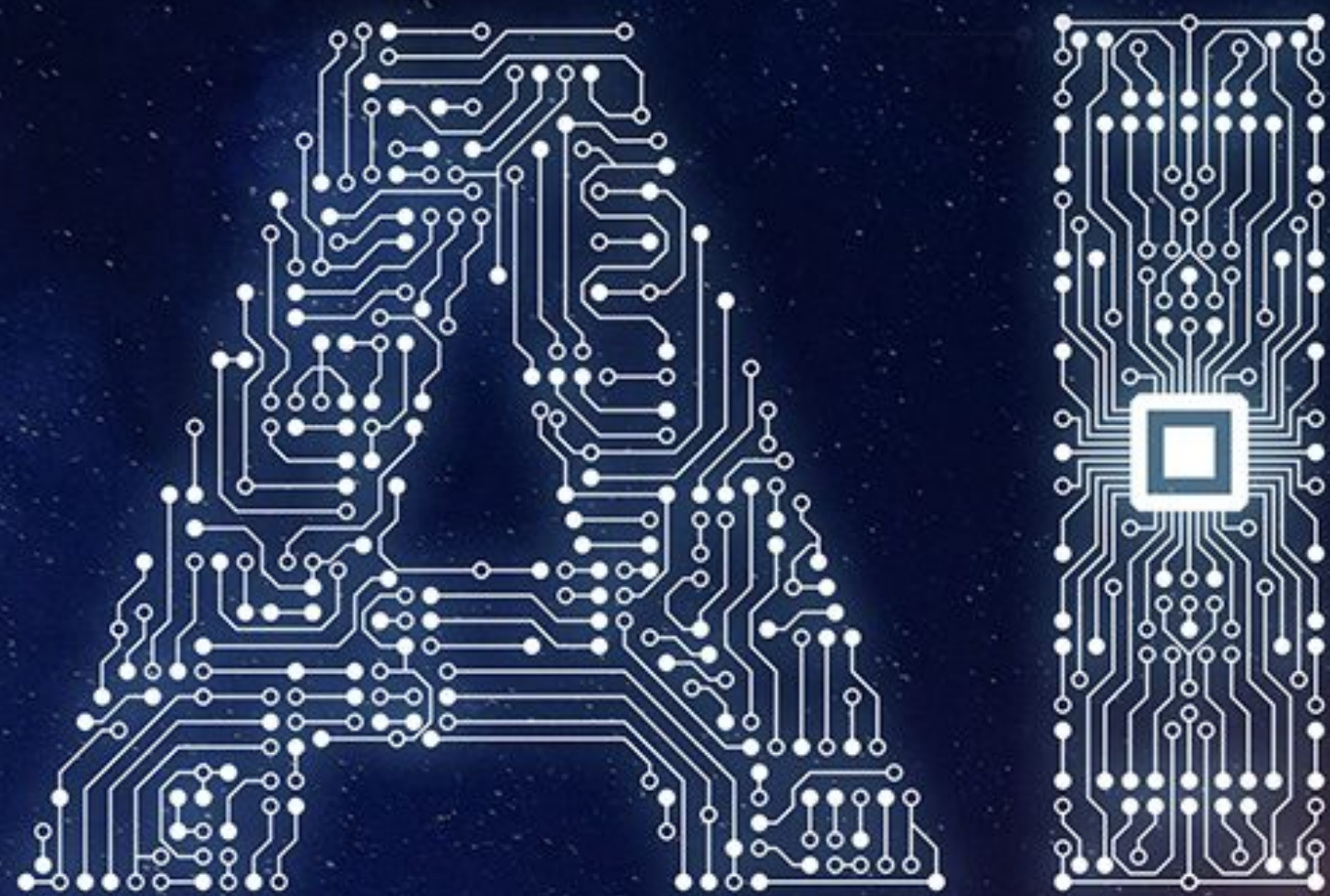


$$E=MC^2$$

TRIAL AND ERROR

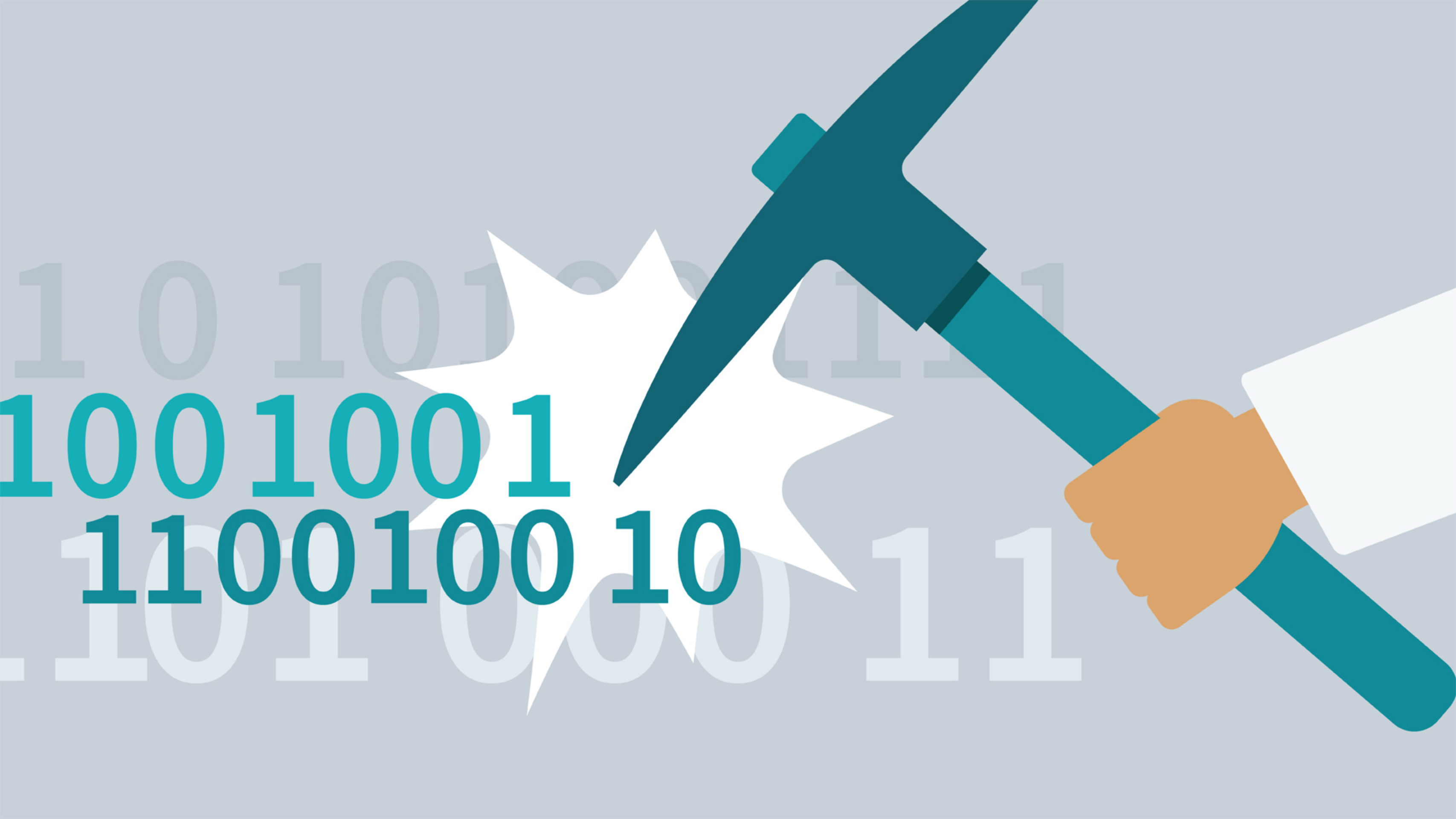
**9. Data powered by AI
can change how
schools find, teach, &
support students.**



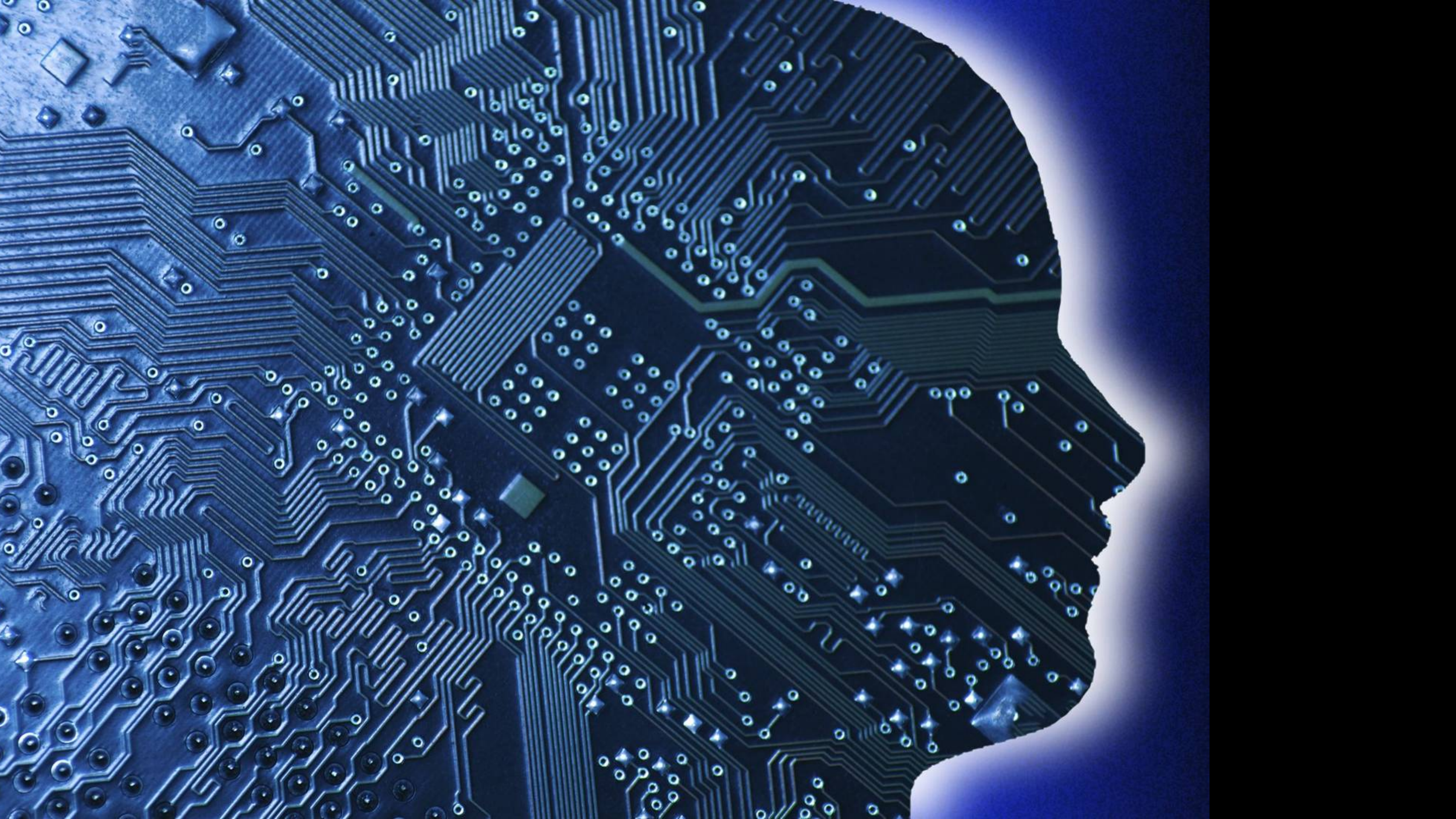


ARTIFICIAL INTELLIGENCE





100010001
11000100010



amazon®

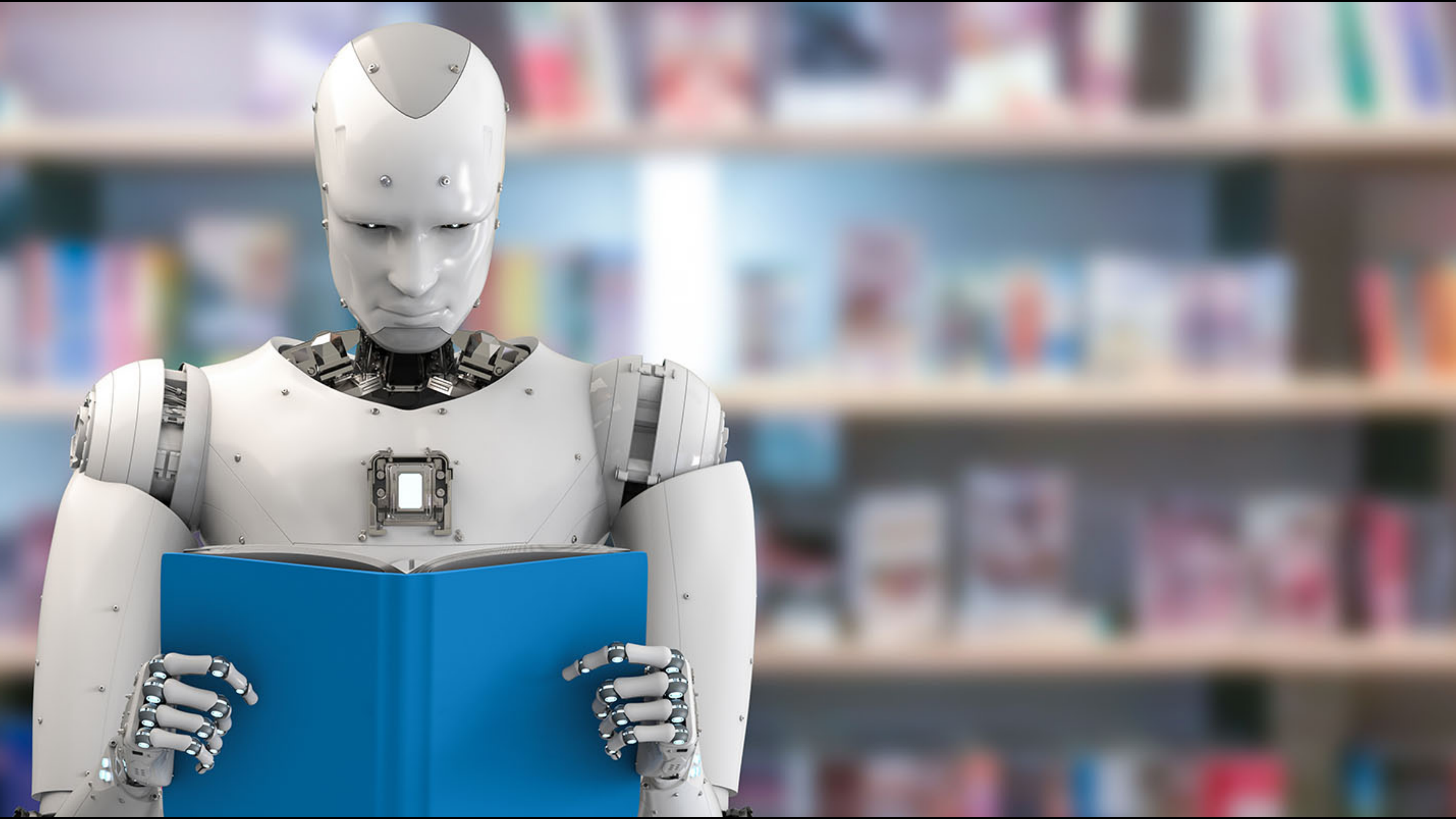
NETFLIX

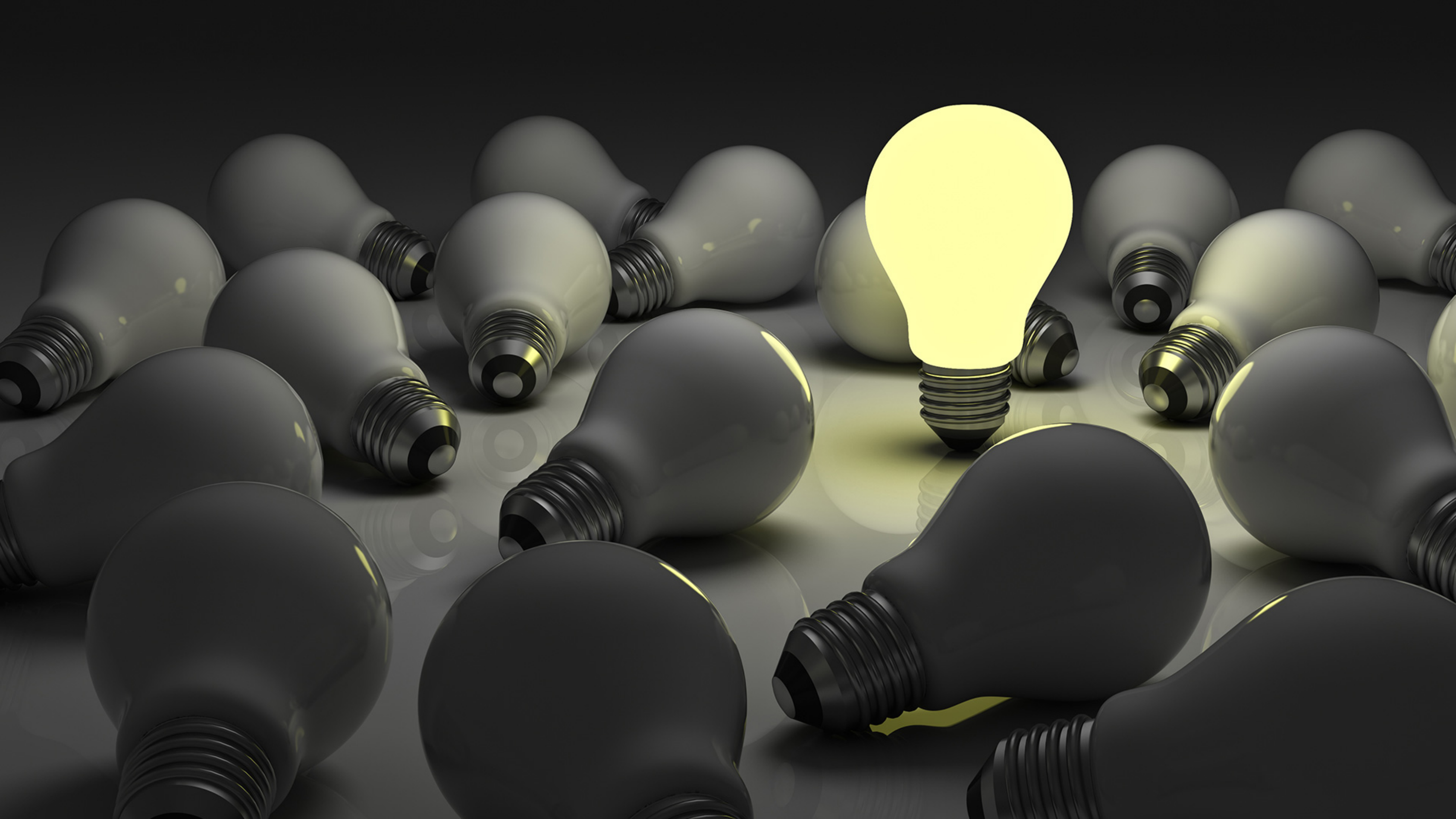
**10. AI may change
where students learn,
who
teaches them, & how
they acquire basic
skills**



FUTURE







Moral Vacuum

INFO SAVVY 21

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