

# Thrival Skills for the Age of AI

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[bit.ly/texasai](https://bit.ly/texasai)

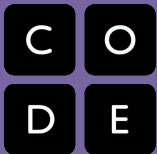
**Pat Yongpradit**  
**pat@code.org**



# Our vision

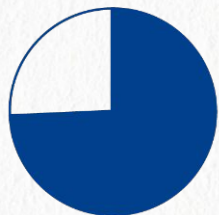


Every student  
in every school  
has the opportunity to  
to learn computer science and AI





A 2024 study of 12- to 17-year-olds across Europe reported that:



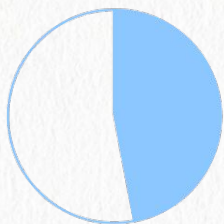
**74%**

Believe that AI will play a significant role in their professional lives.



**46%**

Think their schools adequately prepare them for AI.



**44%**

Perceive their teachers as well prepared to work with AI applications.



**49%**

Worry that AI could widen gaps in academic success among peers.

Source: AI in European Schools: A European report comparing seven countries (Vodafone Foundation, 2024)  
(7,000 students across Germany, Greece, Portugal, Romania, Spain, Türkiye, and the UK)



## Mission

Create the enabling conditions for education systems to thrive in an age of AI.



*in coordination with the World Economic Forum*

## ◆ 44 State Education Agencies

Alabama

Alaska

Arkansas

Arizona

California

Colorado

Connecticut

D.C.

Delaware

DoDEA

Hawaii

Illinois

Indiana

Iowa

Kansas

Kentucky

Louisiana

Maine

Maryland

Michigan

Minnesota

Mississippi

Missouri

Montana

North Carolina

Nebraska

Nevada

New Jersey

New Mexico

North Dakota

Ohio

Oklahoma

Oregon

Pennsylvania

Rhode Island

South Carolina

Tennessee

Utah

Vermont

Virginia

Washington

West Virginia

Wisconsin

Wyoming

# **AI Education**

***More than a tool***

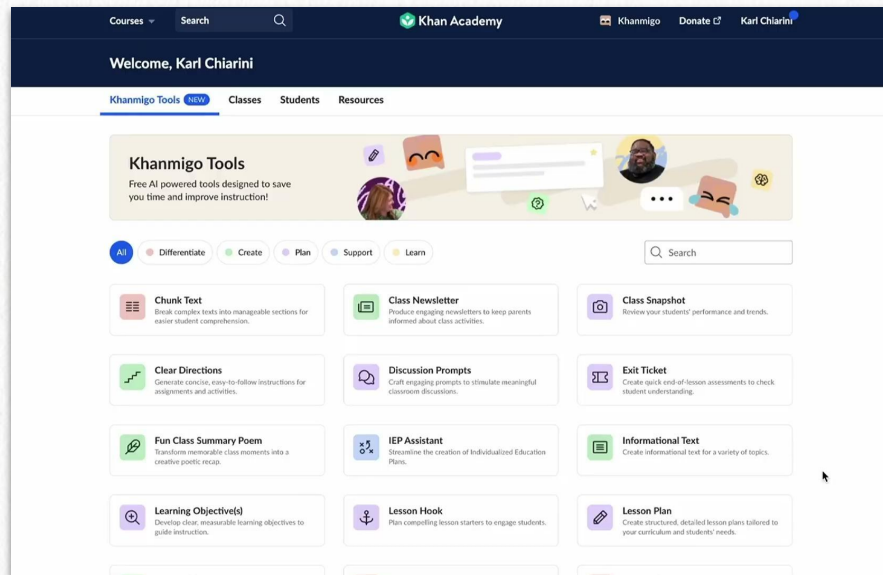


# Teaching With and About AI



## Teaching With AI

**Using AI as a tool** for teacher support, student learning, or school management and operations.

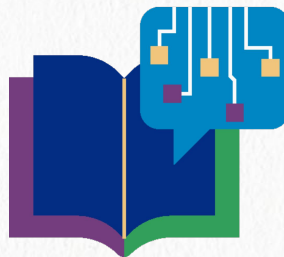


# Teaching With and About AI



## Teaching With AI

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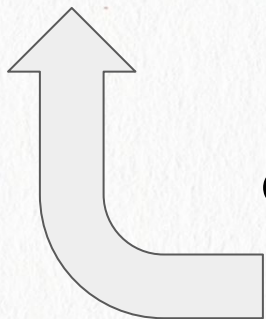


## Teaching About AI

**Understanding how AI works,** its capabilities and limitations, ethical considerations, and societal impacts.

# Teaching With and About AI

**How to Use AI + How AI Works**



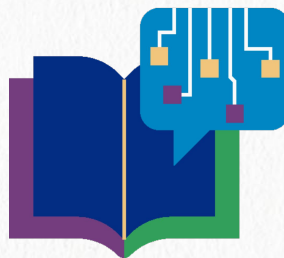
**Computer Science**

Social Studies

Language Arts

Statistics

etc...



**Teaching About AI**

**Understanding how AI works,**  
its capabilities and limitations, ethical  
considerations, and societal impacts.

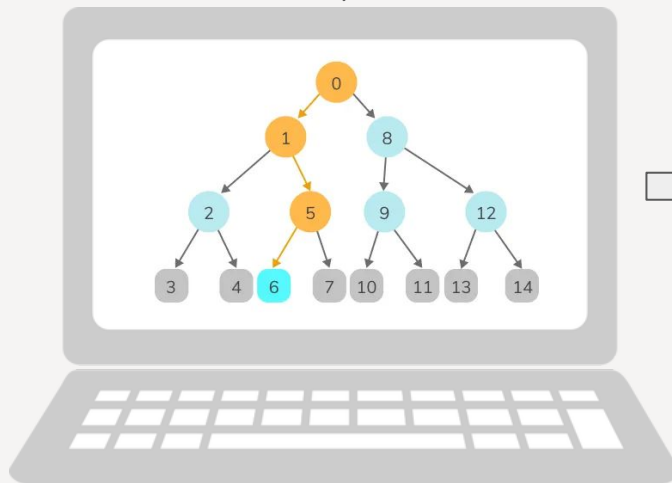
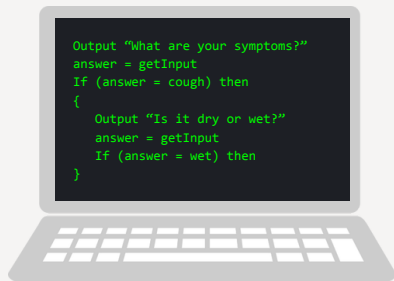


# → What is AI?

## Doctor Program

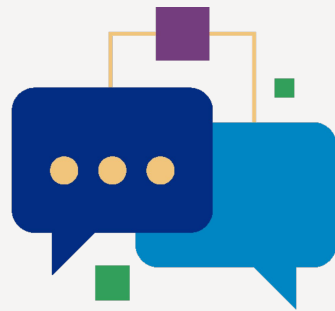
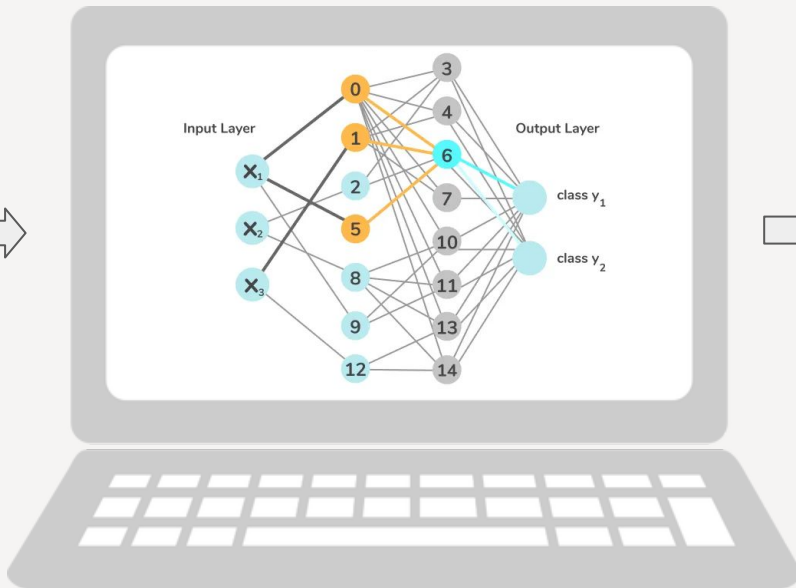
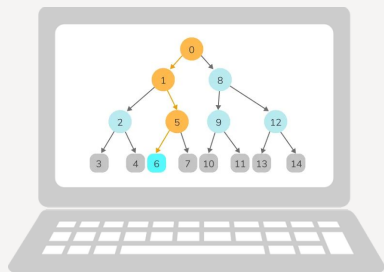
```
Output "What are your symptoms?"
answer = getInput
If (answer = cough) then
{
    Output "Is it dry or wet?"
    answer = getInput
    If (answer = wet) then
        ...
}
```

# Machine Learning



Auto-Complete Text  
Video Recommendation  
Email Filters  
Digital Assistants  
Voice Recognition  
Translation Apps

# Deep Learning



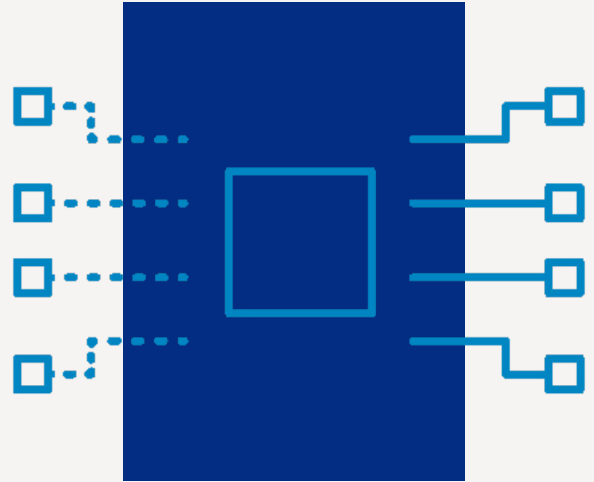
Large Language Models



## → Generative AI

...is a powerful category of AI that includes models that generate text, images, videos, or music.

- Transparency and explainability
- Trust and accountability
- Bias, misinformation, and overreliance



# **The Big Picture**

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***We've been here before***

## Potential Benefits

Content development and **differentiation**

**Assessment** design and timely feedback

Tutoring and **personalized** learning assistance

Aiding **creativity** and **collaboration**

Operational and administrative **efficiency**

Academic **dishonesty**

Diminished agency and **accountability**

**Privacy** issues and unauthorized data collection

**Overreliance** and loss of critical thinking

Perpetuating **societal bias**

## Potential Risks



— “ —

**AI tools** stretch students' interest, and allow for more relevant kinds of problems and increase motivation.

— ” —

— “ —

**Calculators** stretch students' interest, and allow for more relevant kinds of problems and increase motivation.

— ” —





AP photo

**Elementary school teachers picket against use of calculators in grade school**  
The teachers feel if students use calculators too early, they won't learn math concepts

## Math teachers protest against calculator use

By JILL LAWRENCE

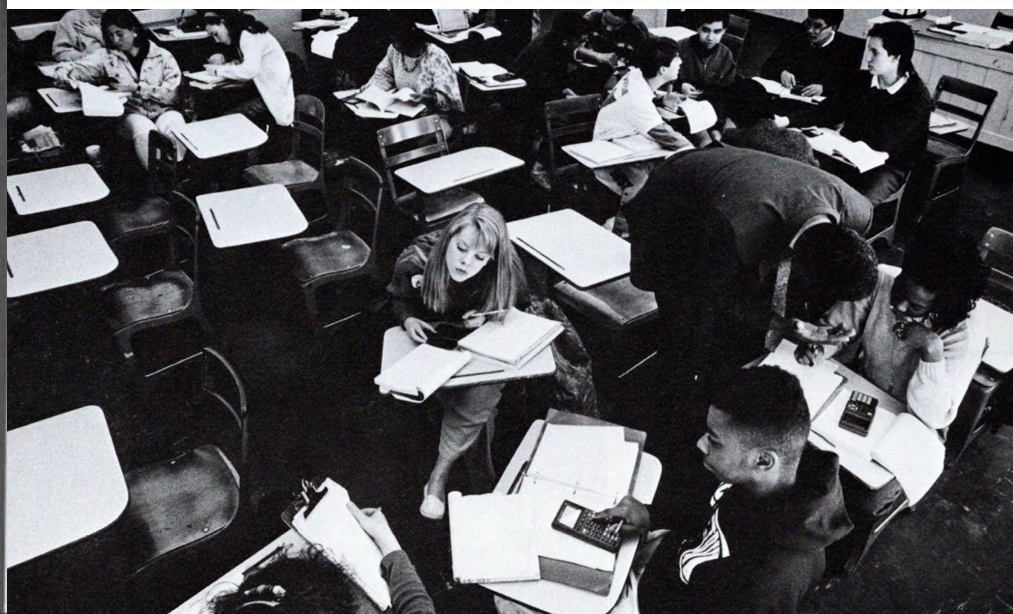
"My older kids don't pay any attention to an answer being absurd," he said. "Teachers are shy."

# Calculators in the Classroom

**Pro:** Calculators make tedious math fun, fast and accurate, educators and students agree. When used for creative problem solving, motivation in students seems spontaneous.



**Con:** Mechanization of fundamental classroom skills may leave kids unable to do simple math on paper. The cost for electricity or batteries may make operating the device daily too expensive.



# Roadmap



*Leading while learning*



# AI Leadership Roadmap



Empowering Learners  
for the Age of AI

An AI Literacy Framework for Primary and Secondary Education

AI Literacy Framework for Primary and Secondary Education

AI Literacy Framework for Primary and Secondary Education

AI Literacy Framework for Primary and Secondary Education

AI Literacy Framework for Primary and Secondary Education

AI Literacy

1



2

Organizational  
Learning



Public  
Awareness

Hour  
of AI

3

Foundational  
Policies

4



5

Guidance for Schools



# AI Leadership Roadmap



## AI Literacy

1



*"I understand and shape AI's behaviors."*



Designing AI

*"I recognize AI's influence."*



Engaging with AI

AI Literacy

Creating with AI



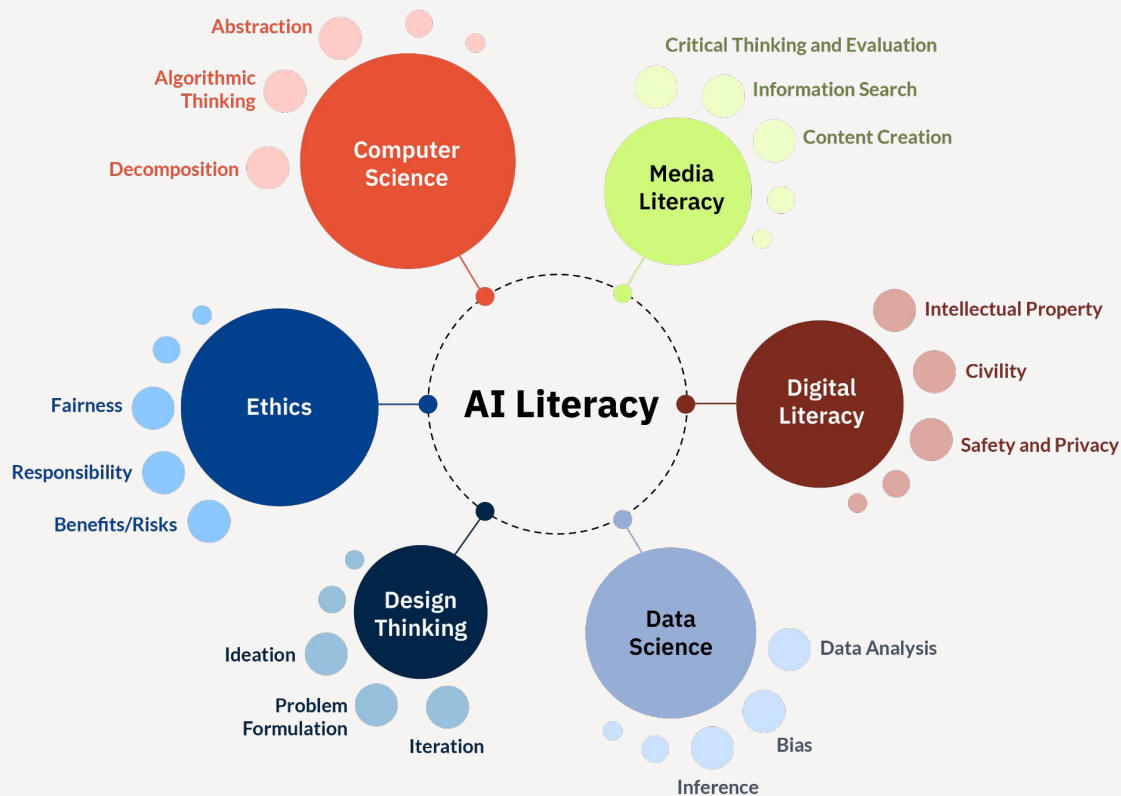
*"I collaborate with AI to create new things."*

Managing AI



*"I use AI to enhance and support my tasks."*

# → Relationship to Other Areas



## Knowledge



The Nature of AI  
Capabilities and Limitations  
Role in Society

## Skills



Critical Thinking  
Creativity  
Self and Social Awareness

## Attitudes



Responsible  
Adaptable  
Empathetic



## → Engaging with AI



**Engaging with AI** in daily life involves using AI as a tool to access new content, information, or recommendations.

**Ex: Recognize AI's role and influence in different contexts.**



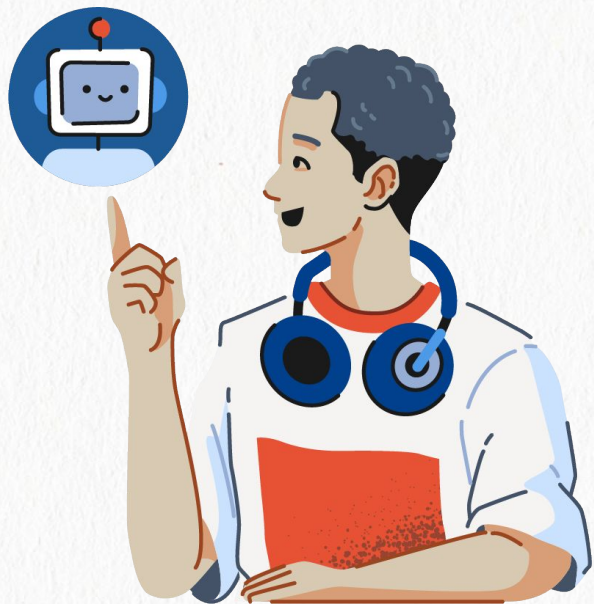
## → Creating with AI



**Creating with AI** consists of collaborating with AI in a creative or problem-solving process.

**Ex:** Use AI systems to explore new perspectives and approaches that build upon original ideas.

# → Managing AI



**Managing AI** requires intentionally choosing how AI can support and enhance human work.

**Ex: Delegate tasks to AI systems to appropriately automate or augment human workflows.**

## → Designing AI



**Designing AI** empowers learners to shape AI through hands-on exploration of the data used by AI models and engaging students in AI design decisions.

**Ex:** Collect and curate data that could be used to train an AI model by considering relevance, representation, and potential impact.

## Provide Feedback on this Draft!

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The final version of the framework will be released in early 2026.

Stakeholders are encouraged to share their feedback and insights.

[ailiteracyframework.org](https://ailiteracyframework.org)

REVIEW DRAFT MAY 2025





## Empowering Learners for the Age of AI

#### *The A-Z Charting Framework for Primary and Secondary Education*

OXFORD BLACK 2000

1

2

# Organizational Learning



The screenshot shows a presentation slide titled "Potential Benefits & Risks of Using AI in Education" from a software called "Teach AI". The slide is divided into two main sections: "Potential Benefits" and "Potential Risks".

**Potential Benefits:**

- Content development and differentiation
- Assessment design and timely, effective feedback
- Tutoring and personalized learning assistance
- Aiding creativity and collaboration
- Operational and administrative efficiency

**Potential Risks:**

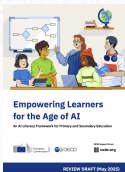
- Misinformation, errors, and academic dishonesty
- Diminished student and teacher agency and accountability
- Compromised student privacy and unauthorized data collection
- Overreliance and loss of critical thinking
- Societal bias and lack of cultural sensitivity

The slide features a central horizontal timeline with alternating blue circles and diamonds, each containing a small icon, representing the progression from benefits to risks. The "Teach AI" logo is in the top right corner.

**[teachai.org/presentation](https://teachai.org/presentation)**



# AI Leadership Roadmap



AI Literacy

1



2

Organizational  
Learning



Connect on LinkedIn

# AI Leadership Roadmap



Empowering Learners  
for the Age of AI

An AI Literacy Framework for Policy and Research

AI Literacy Framework for Policy and Research

2020

AI Literacy

1

Public  
Awareness

Hour  
of AI

3

Organizational  
Learning

2





Activity selection interface with filters and activity cards.

**Filters:**

- Grades: All grades (selected), Pre-reader, Grades 2-5, Grades 6-8, Grades 9+
- Difficulty: Beginner (selected), Comfortable

**Search:**

**Created by:** All

**Classroom technology:**

- ☐ Computers
- ☐ Android
- ☐ iPad/iPhone
- ☐ Robotics or circuits
- ☐ Poor or no internet
- ☐ No computers or devices

**Topics:**


- ☐ Art, Media, Music
- ☐ Artificial Intelligence
- ☐ Language Arts
- ☐ Math
- ☐ Science
- ☐ Social Studies
- ☐ Computer Science only

**Activity type:**

- ☐ Self-led tutorial

**Activity Cards:**

- Music Lab: Jam Session**  
Grades 2+ | Blocks
- Dance Party**  
Grades 2+ | Blocks
- Hello World**  
Grades 2+ | Blocks
- The Show Must Go On**  
Grades 2+ | Blocks, Python
- Spreading Kindness with Scratch an...**  
Grades 2+ | Blocks
- Minecraft Hour of Code**  
Grades 2+ | Blocks

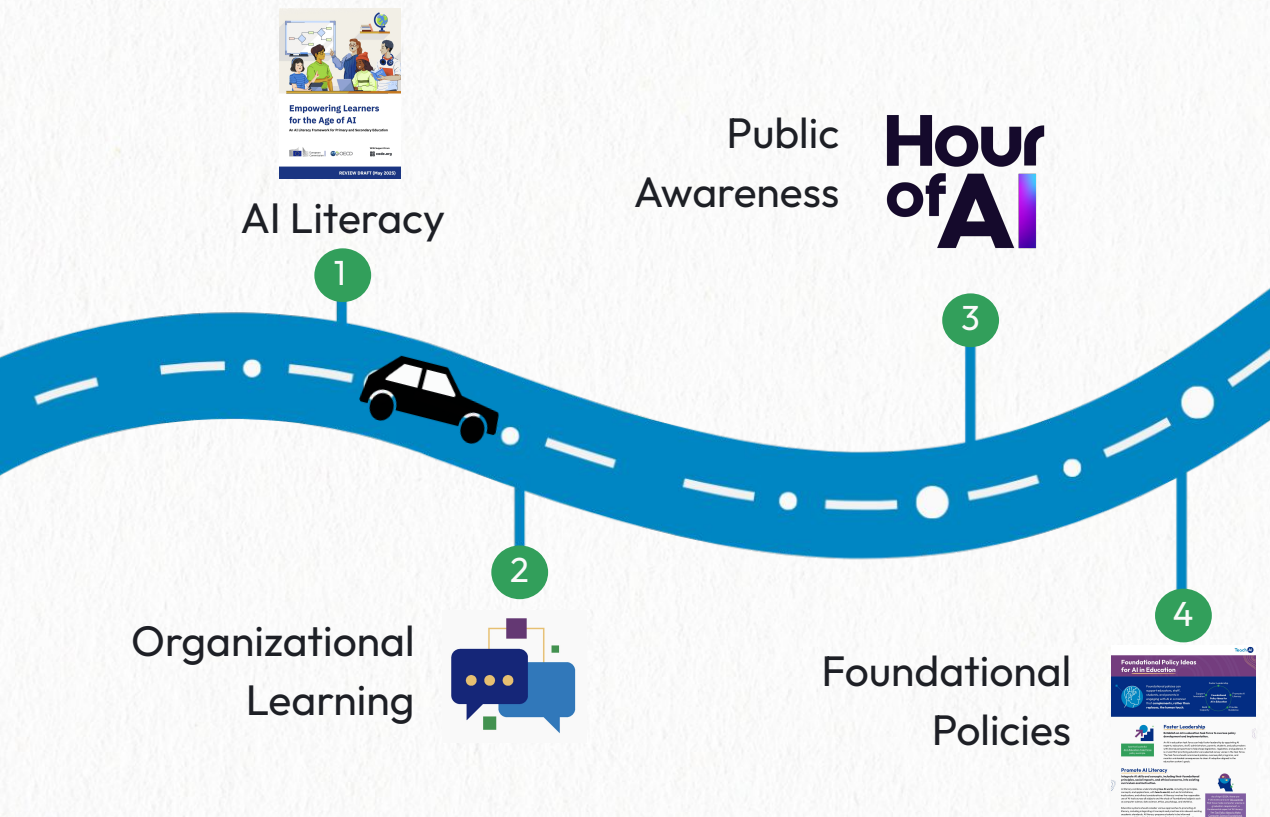
A young man and woman are shown from the chest up, looking upwards and to the right. The man is on the left, wearing a blue jacket and holding a black tablet. The woman is on the right, wearing a blue jacket and carrying a backpack. Above them is a large, solid white square. The background is a dark, solid color.

Lead with Empowerment  
Everyone is a Learner  
Broader Activities  
Community Movement  
Moments All Year

**[hourofai.org](http://hourofai.org)**



# AI Leadership Roadmap



## Foster Leadership

Establish an AI task force.

## Promote AI Literacy

Integrate AI skills and concepts.

## Build Capacity

Provide funding for PD.

## Support Innovation

Promote pilots.

## Provide Guidance

Equip schools with guidance.



# AI Leadership Roadmap



Empowering Learners  
for the Age of AI

An AI Literacy Framework for Primary and Secondary Education

MINISTRY OF EDUCATION

AI Literacy

1



2

Organizational  
Learning



Public  
Awareness

Hour  
of AI

3

Foundational  
Policies

4



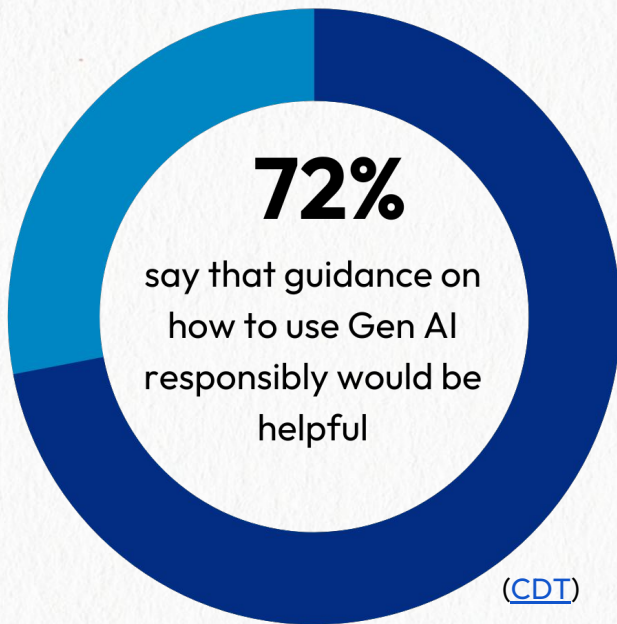
5

Guidance for Schools

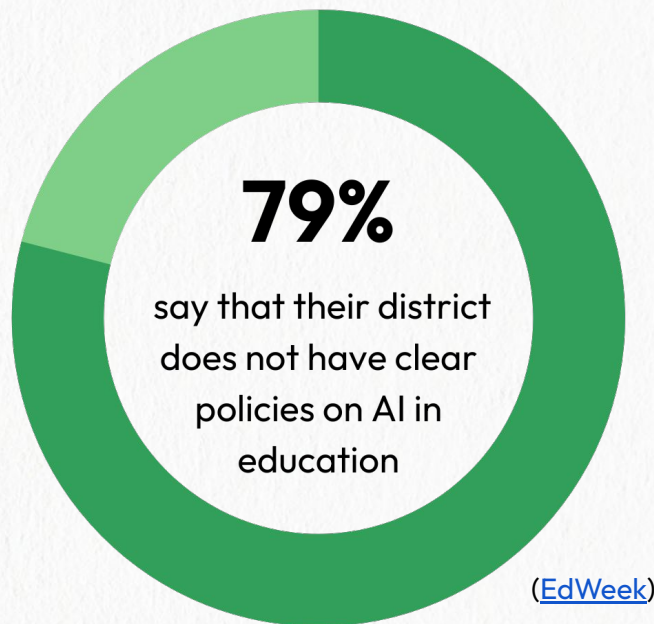


# ● The Need for AI Guidance

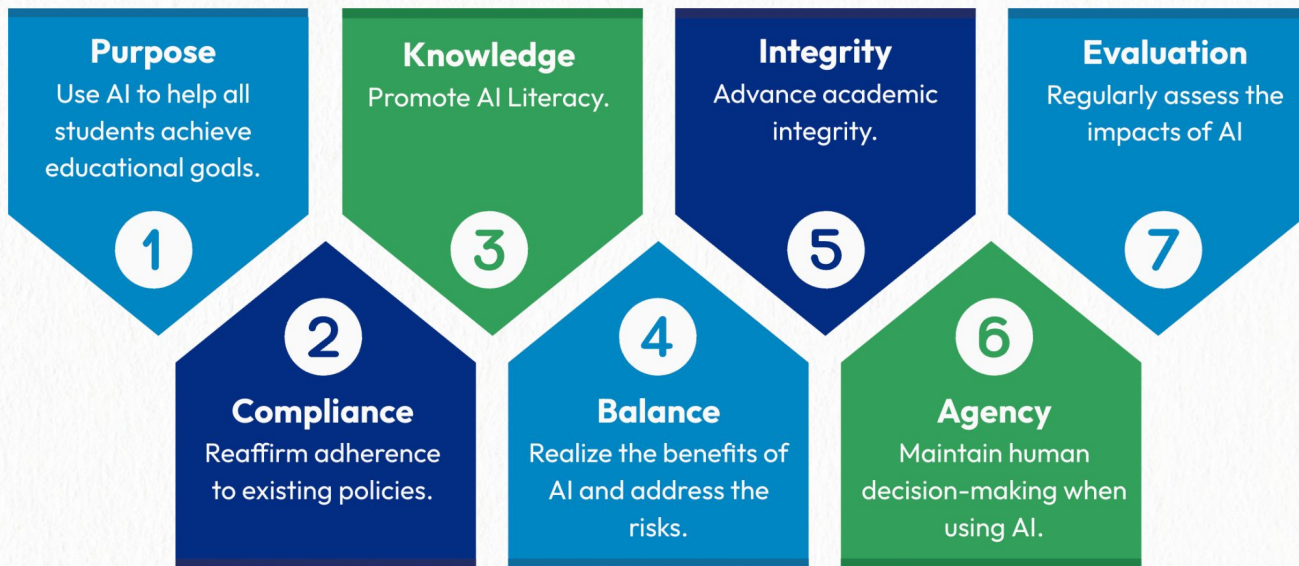
## Students



## Teachers



# ● AI Guidance for Schools Toolkit



- School Guidance on AI
- Addendums to Existing Policies
- Letters to Staff, Students and Parents
- Student and Class Policies



## Purpose

Use AI to help all students achieve educational goals.

1

2

## Compliance

Reaffirm adherence to existing policies.

### Types of Policies

#### **Responsible Use Policy**

*Always review and critically assess outputs from AI tools before submission or dissemination.*

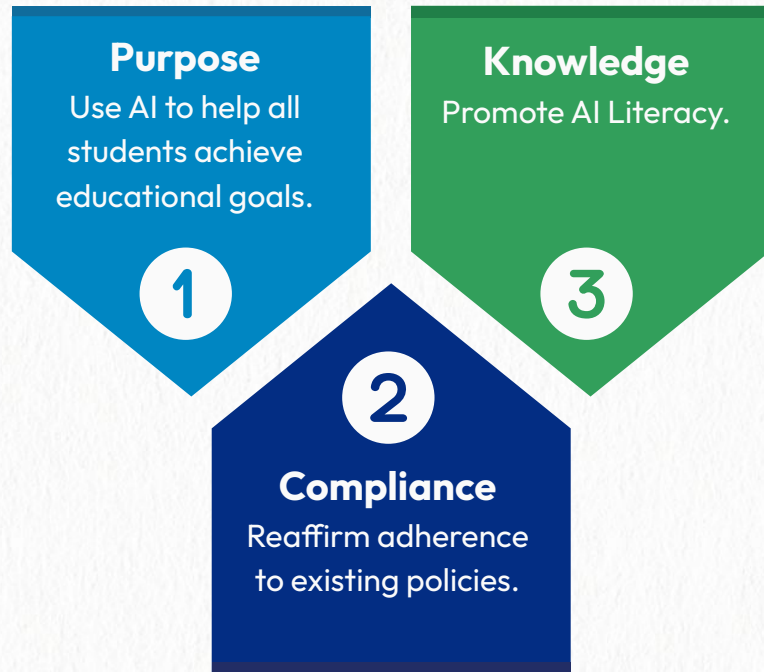
#### **Privacy Policy**

*Staff and students should never input personal, sensitive, or confidential data into any AI system.*

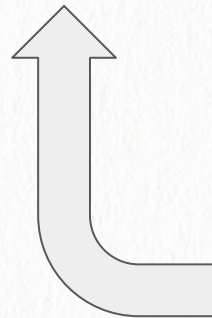
#### **Academic Integrity Policy**

*Teachers are responsible for clarifying appropriate or prohibited uses of AI tools.*



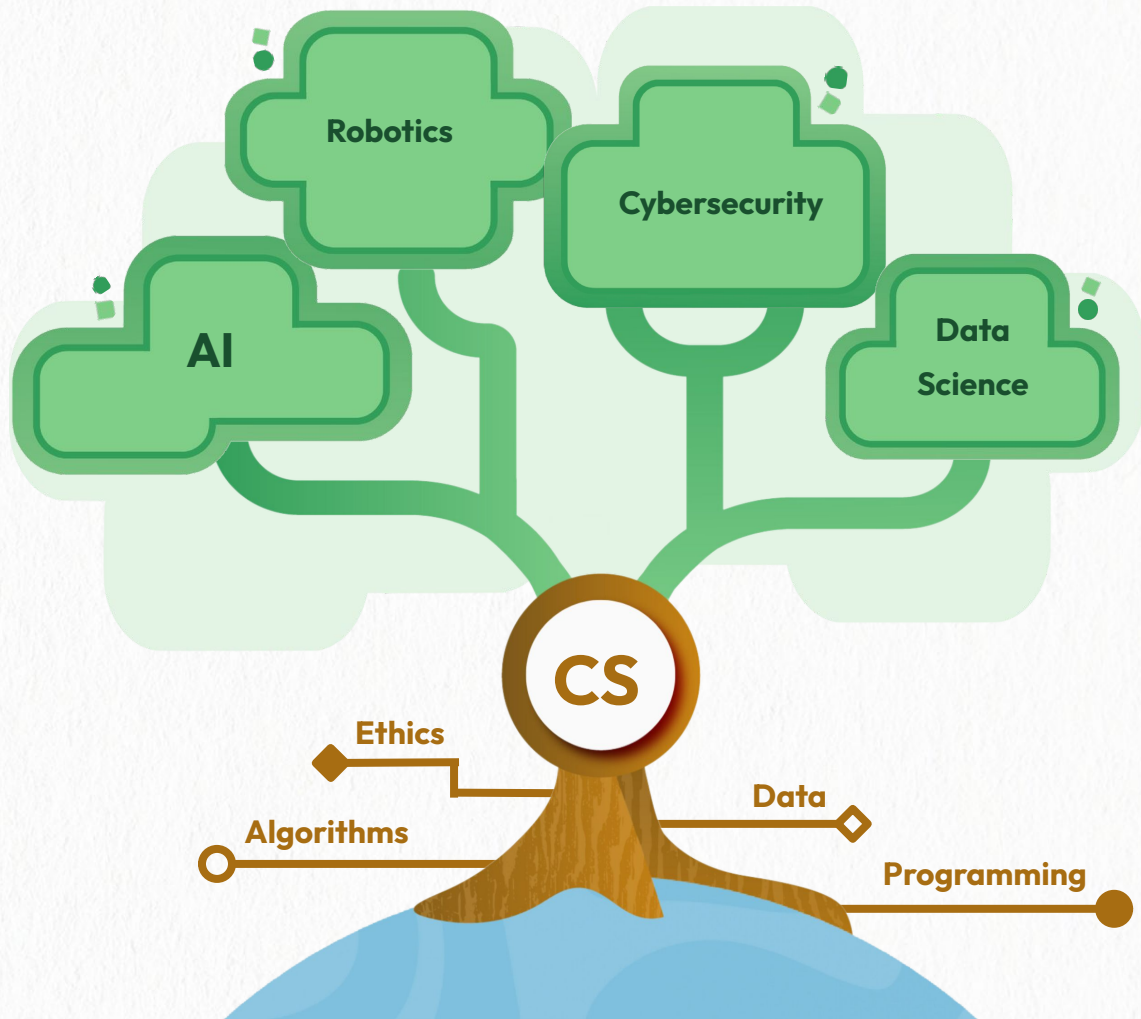


## How to Use AI + How AI Works



Computer Science  
Ethics  
Mathematics  
Psychology

In an age of AI,  
CS isn't just  
mandatory,  
it is foundational



# Seven Principles for AI in Education



Content development and **differentiation**



**Plagiarism** and academic dishonesty

**Assessment** design and timely, effective feedback



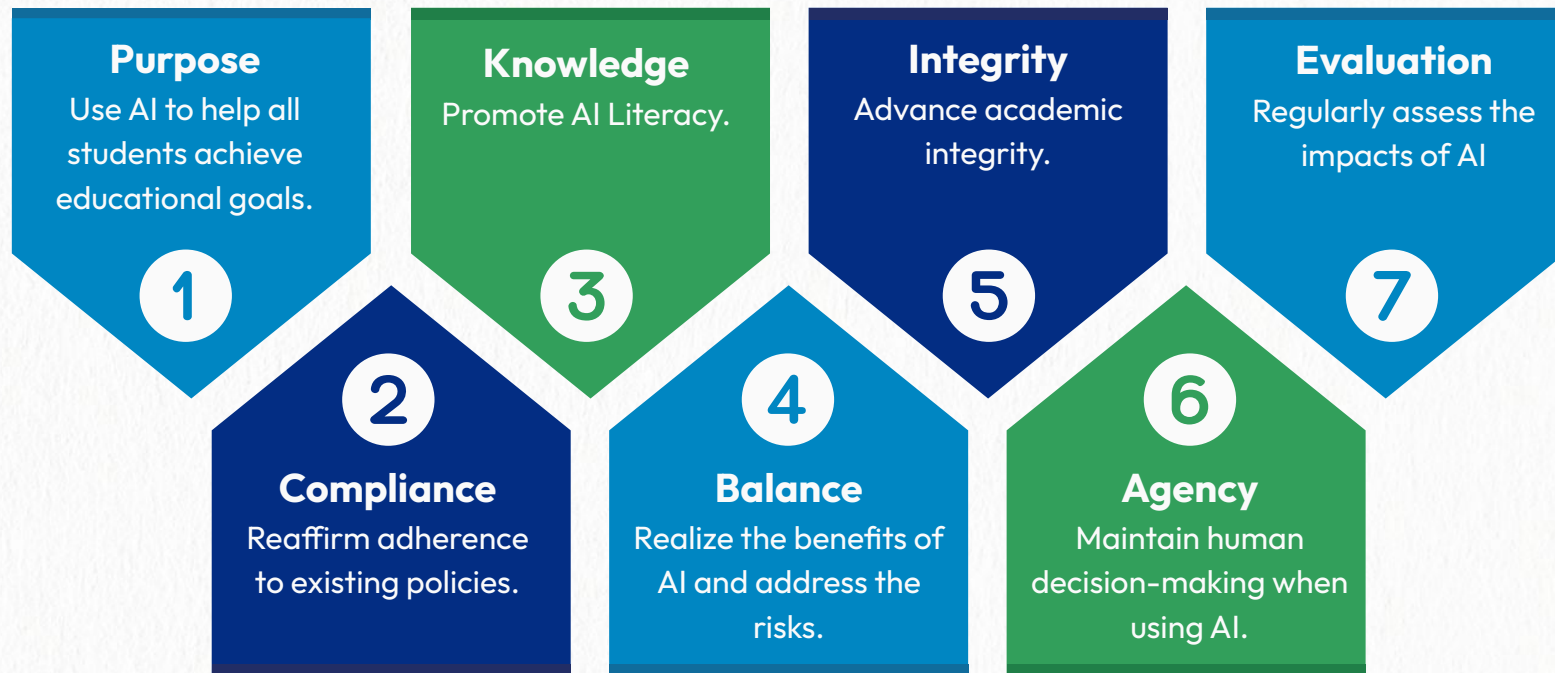
Diminished agency and **accountability**

Aiding **creativity** and **collaboration**



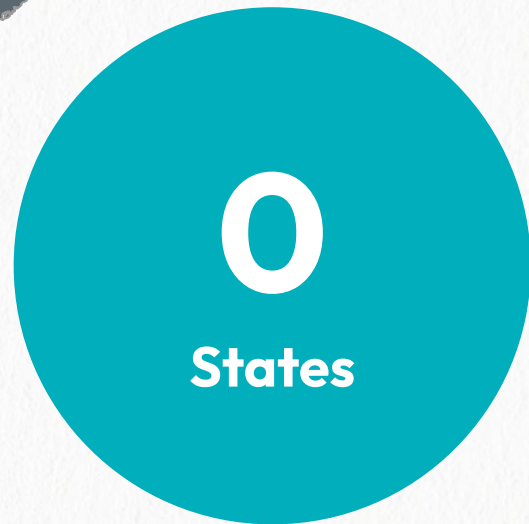
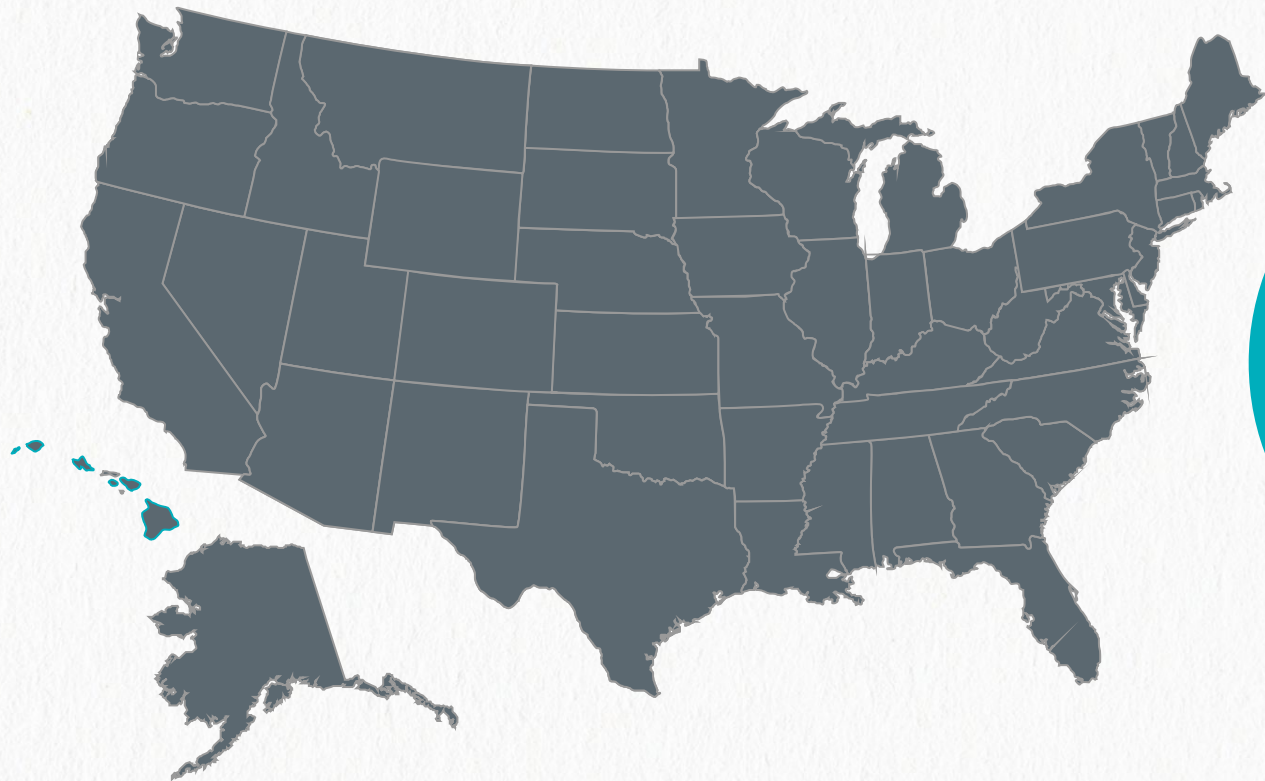
**Overreliance** and loss of critical thinking

# Seven Principles for AI in Education

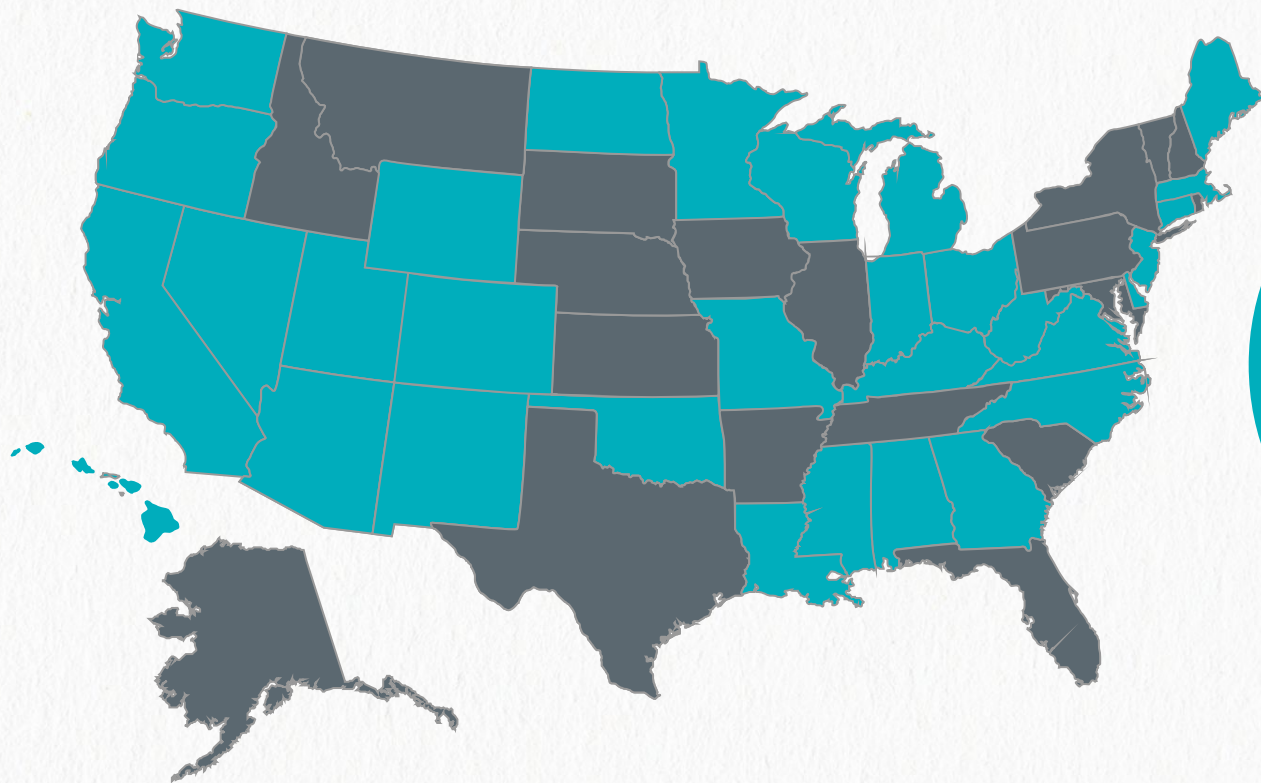




## ● States: AI Guidance (Aug 2023)



## ● States: AI Guidance (Aug 2025)



**31**  
**States**

# Conclusion

***Making the most of AI***

# AI Leadership Roadmap



AI Literacy

1

Public  
Awareness

Hour  
of AI

3

Organizational  
Learning

2



Foundational  
Policies

4



5

Guidance for Schools





# Fireside Chat

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*Keepin' it real*

Connect with Pat





# Extra Slides



# Federal Policy

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*Well, they're doing  
something right...*

# Federal Policy



April 23, 2025

Executive [order](#) promoting AI to enhance learning outcomes and prepare students for AI-driven economies.

July 22, 2025

Dept of Education release an AI [guidance](#) for grants.

June 30, 2025

AI education [pledge](#) solicitation opened, with over 60 signatories

## Priorities

- Integrating AI and CS curricula
- Providing PD for teachers
- Using AI tools to personalize learning and support diverse learners

## Highlights

- AI Literacy
- Definition
- Inclusion of CS

# → Knowledge, Skills, and Attitudes

## Knowledge



### The Nature of AI AI's Capabilities and Limitations

AI Reflects Human Choices and Perspectives  
AI Reshapes Work and Human Roles  
AI's Role in Society

## Attitudes



Responsible  
Curious  
Innovative  
Adaptable  
Empathetic

## Skills



Critical Thinking: Evaluate AI-generated content.  
Creativity: Collaborate with AI to create and refine ideas.

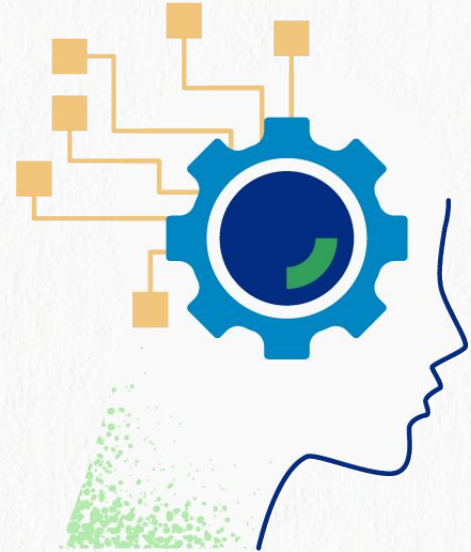
**Computational Thinking: Decompose problems and provide instructions.**  
**Self and Social Awareness: Recognize AI's influence.**

Collaboration: Work effectively with AI and humans.  
Communication: Explain how AI is used.  
Problem Solving: Determine when and how to use AI.

# ● Artificial Intelligence...

...refers to **programs or machines that simulate tasks that typically require human intelligence**, such as:

- making predictions
- generating content
- providing recommendations

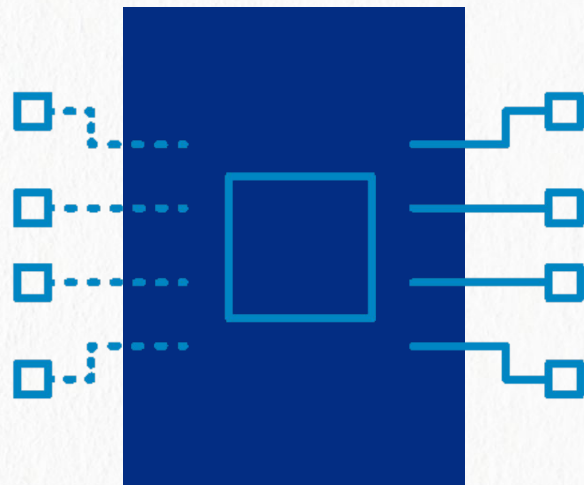




## ● Generative AI...

...is a powerful category of AI that includes models that generate text, images, videos, or music.

- Transparency and explainability
- Trust and accountability
- Bias, misinformation, and overreliance



# ● Common Misconceptions about AI

Misconception	Explanation
<b>AI can think in the same ways people do.</b>	Gen AI simulates understanding by repeating patterns in data rather than comprehending content with intent or awareness. This approach can lead to seemingly credible errors, often called “hallucinations,” highlighting the need for humans in decision-making roles.
<b>All AI is alike.</b>	There is a wide range of AI technologies with various capabilities. Each has its strengths and limitations and is suited to different tasks.
<b>AI decisions are unbiased.</b>	AI systems can perpetuate or amplify biases in their training data. Bias in AI systems can also come from the design, development, or testing process.

## AI Distrust

46%

of teens have used AI without permission ([Common Sense](#), Sep 2024)

52%

of teachers are more distrustful ([CDT](#), Dec 2023)

68%

of teachers were using gen AI detection tools ([CDT](#), Dec 2023)



## AI Guidance and Trust

Teachers in schools that provide guidance on AI use, report:

- less distrust,
- report less cheating with AI, and
- are less likely to use AI detection tools.

([CDT](#), Dec 2023)



## Key Takeaway

**Let's create the foundation to  
make the most of the AI opportunity.**

— “ —

One of the important uses of **calculators** is to enable children to solve more interesting problems, and to work out **long division** which would otherwise discourage them.

— ” —

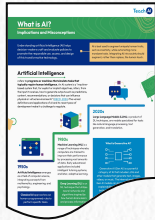
— “ —

One of the important uses of **AI** is to enable children to solve more interesting problems, and to work out **scenarios** which would otherwise discourage them.

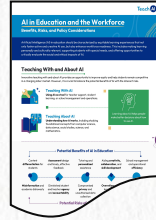
— ” —



# Foundational Policy Ideas for AI in Education



**What is AI?**



**AI in Education  
and the  
Workforce**



**Classroom  
Perspectives  
on AI**



**Policy  
Landscape  
(US & Global)**



**Foundational  
Policy Ideas**

1. Foster Leadership
2. Promote AI Literacy
3. Build Capacity
4. Support Innovation
5. Provide Guidance

[teachai.org/policy](https://teachai.org/policy)



# Foundational Policy Ideas for AI in Education



## Foster Leadership

Establish an AI task force.



## Build Capacity

Provide funding for professional development.



## Promote AI Literacy

Integrate AI skills and concepts.



## Support Innovation

Promote research and development.



## Provide Guidance

Equip schools with guidance on the responsible use of AI.

