

The Power of AI: Opportunities for Personalized Learning & Sustainable Teaching!

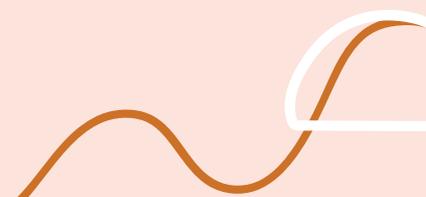
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Kalispell Public Schools
April 2024





Today we will...

- Check-in
- Broadly define AI
- Discuss the benefits and challenges
- Explore AI through the lens of a teacher and student
- Play and explore (sandbox time)
- Reflect



Learning Targets

01

I can **define** Artificial Intelligence (AI) and describe the potential benefits and challenges.

02

I can **investigate** and explore different AI platforms.

03

I can **identify** a plan to integrate AI into my classroom/school.

Extension! I can **create** a teacher resource (e.g. choice board, rubric, quiz, leveled passage) that I can utilize in my classroom/school.



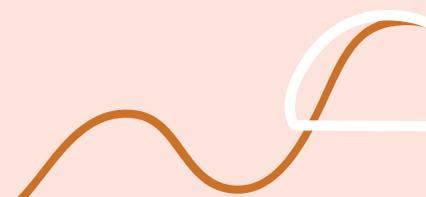


Check-In: Think-Write-Pair-Share

In what ways do you think Artificial Intelligence (AI) could make your day-to-day activities easier or more efficient?

If you're unsure about specific AI applications, feel free to share any thoughts or questions you have about how AI might impact your life.

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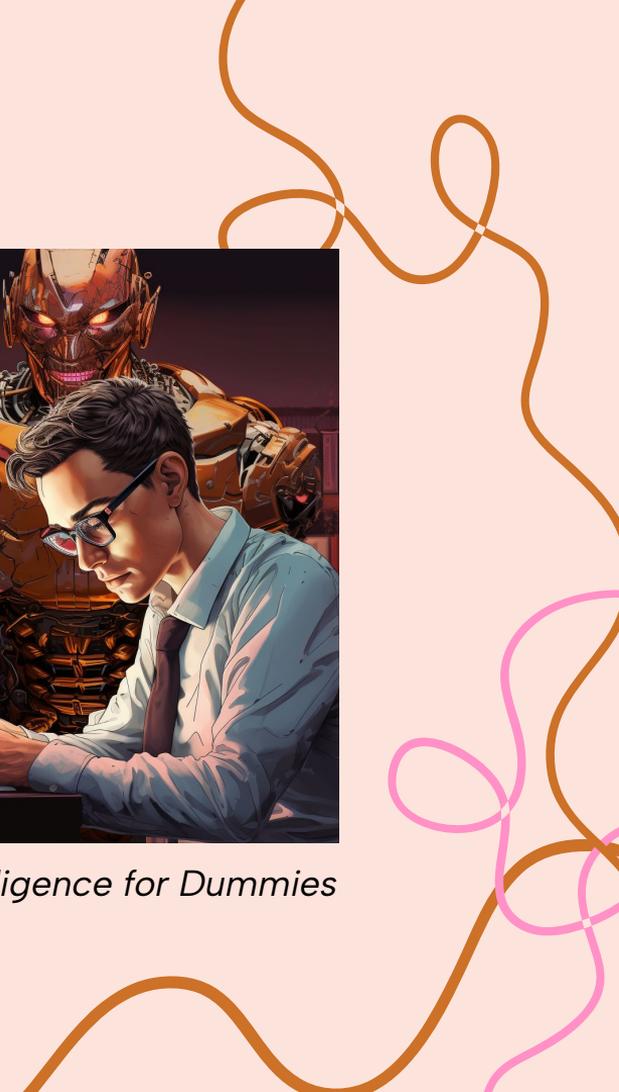




In its most simple definition, Artificial Intelligence (AI) is the creation of intelligent machines that can learn, adapt and perform tasks like humans (generative).



Artificial Intelligence for Dummies



Artificial Intelligence

AI involves techniques that equip computers to emulate human behavior, enabling them to learn, make decisions, recognize patterns, and solve complex problems in a manner akin to human intelligence.

Machine Learning

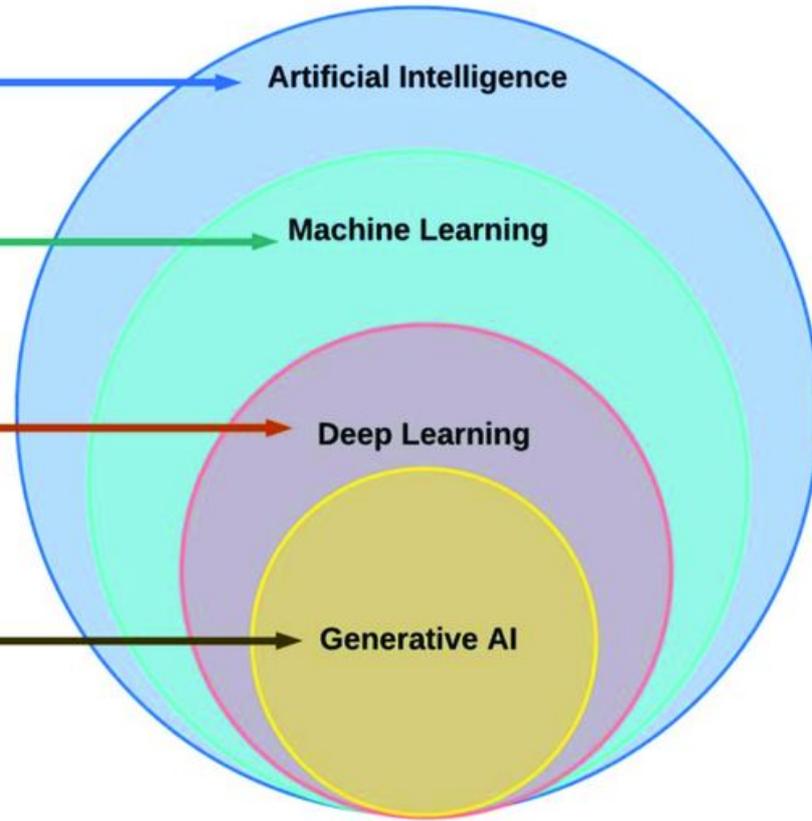
ML is a subset of AI, uses advanced algorithms to detect patterns in large data sets, allowing machines to learn and adapt. ML algorithms use supervised or unsupervised learning methods.

Deep Learning

DL is a subset of ML which uses neural networks for in-depth data processing and analytical tasks. DL leverages multiple layers of artificial neural networks to extract high-level features from raw input data, simulating the way human brains perceive and understand the world.

Generative AI

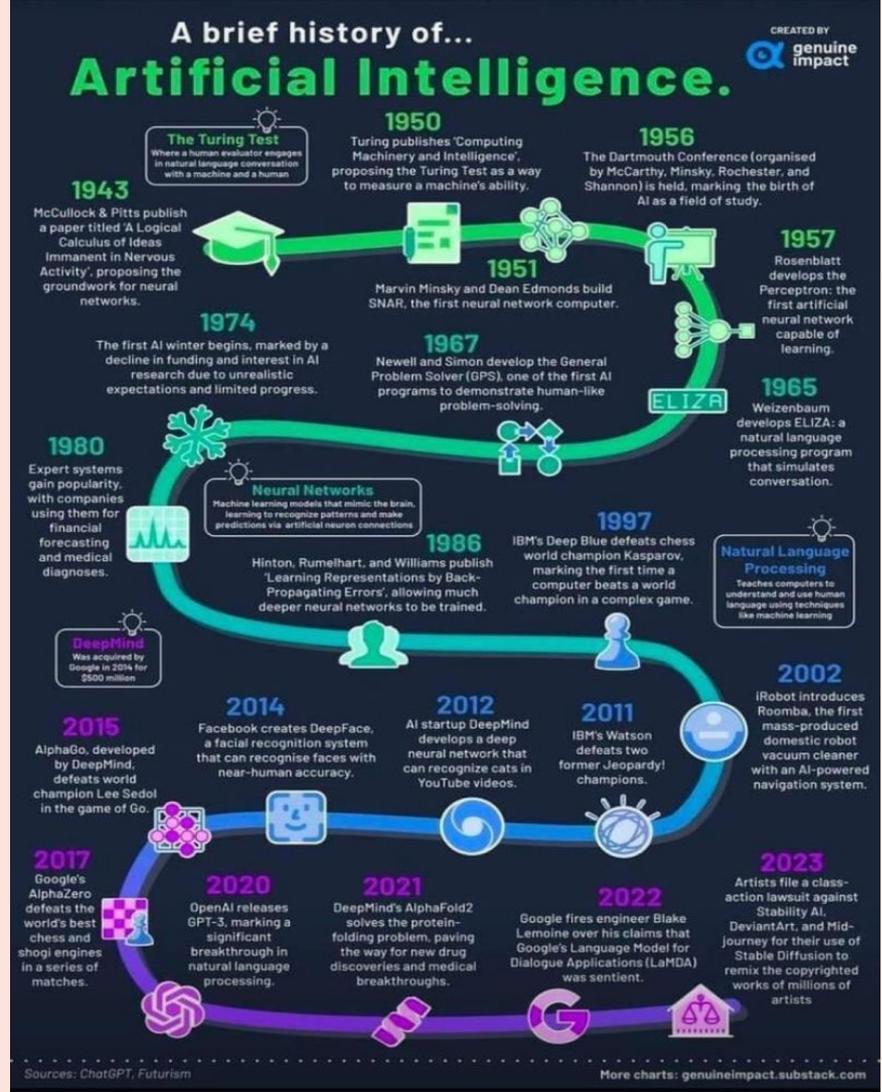
Generative AI is a subset of DL models that generates content like text, images, or code based on provided input. Trained on vast data sets, these models detect patterns and create outputs without explicit instruction, using a mix of supervised and unsupervised learning.





THIS IS NOT MORGAN FREEMAN.

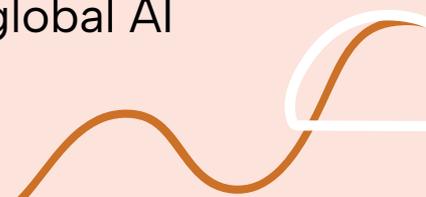
Evolution of AI





AI is Here to Stay

- Amazon estimates 35% of revenue comes from recommendation engine
- 77% of devices in use feature some form of AI
- 64%–79% of organizations adopted AI to gain a competitive advantage
- AI will contribute \$15.7 trillion to the global economy by 2030
- By 2025, AI might eliminate 85 million jobs but create 97 million new ones, resulting in a net gain of 12 million jobs
- Google processes 6.9 billion daily search queries using global AI technologies





The Bigger Challenges

Economic and Employment Concerns

- Job Displacement
- Economic Inequality

Social and Ethical Issues

- Worker retraining and Education
- Social Safety Nets

Policy and Regulatory

- Regulation of AI
- Labor Market Policies

Business and Innovation Strategies

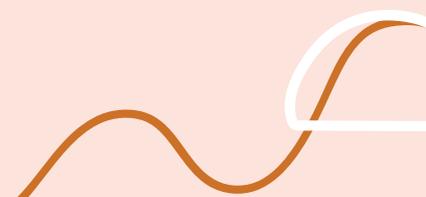
- Human-AI Collaboration
- Investment in Human Capital

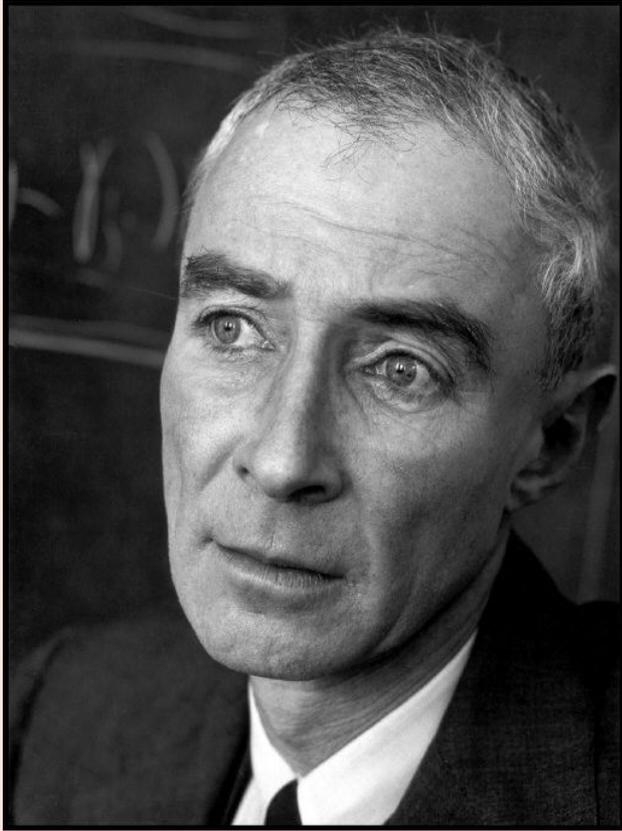
Voices of Concern

- Thought leaders and Scholars
- Labor Unions and Advocacy Groups

Role of AI in Creating Jobs

- New job categories
- Economic Growth and Productivity





**“We knew the
world would not
be the same.”**

Robert Oppenheimer



Educational Impact

Emphasize STEM

- Hands on Learning, practical experiences, PBL
- Computer Science, AI, data analysis, robotics

Develop Critical Thinking and Problem Solving Skills

- Inquiry Based Learning
- Application of skills across disciplines

Digital Literacy

- Advanced topics: cybersecurity, digital ethics, data privacy
- AI Literacy

Lifelong Learning

- Growth Mindset
- Access to multiple learning resources

Focus on Soft Skills (Whole Child Comp.)

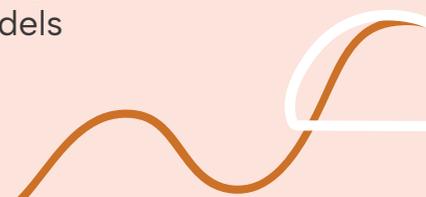
- Communication and Collaboration
- Emotional Intelligence

Adaptable and Personalize Learning

- Personalized Learning Paths (AI)
- Flexible Curriculum (quickly adapt)

Teacher Training and Development

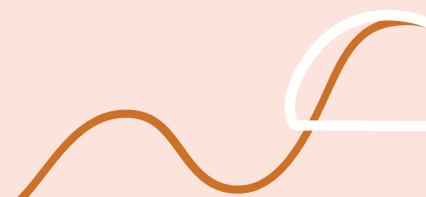
- Ongoing Professional Development
- Collaborative Teaching Models





Did you know?

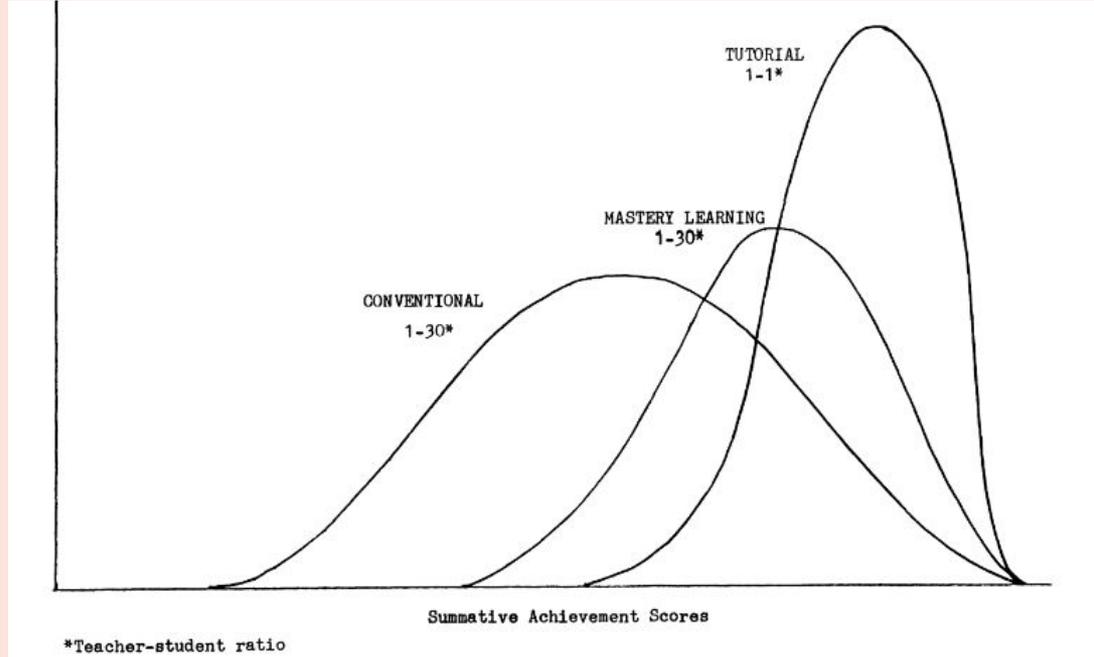
In 1968, Benjamin Bloom identified the value of mastery learning in education. In 1984, he added to that by identifying the value of one-to-one tutoring.

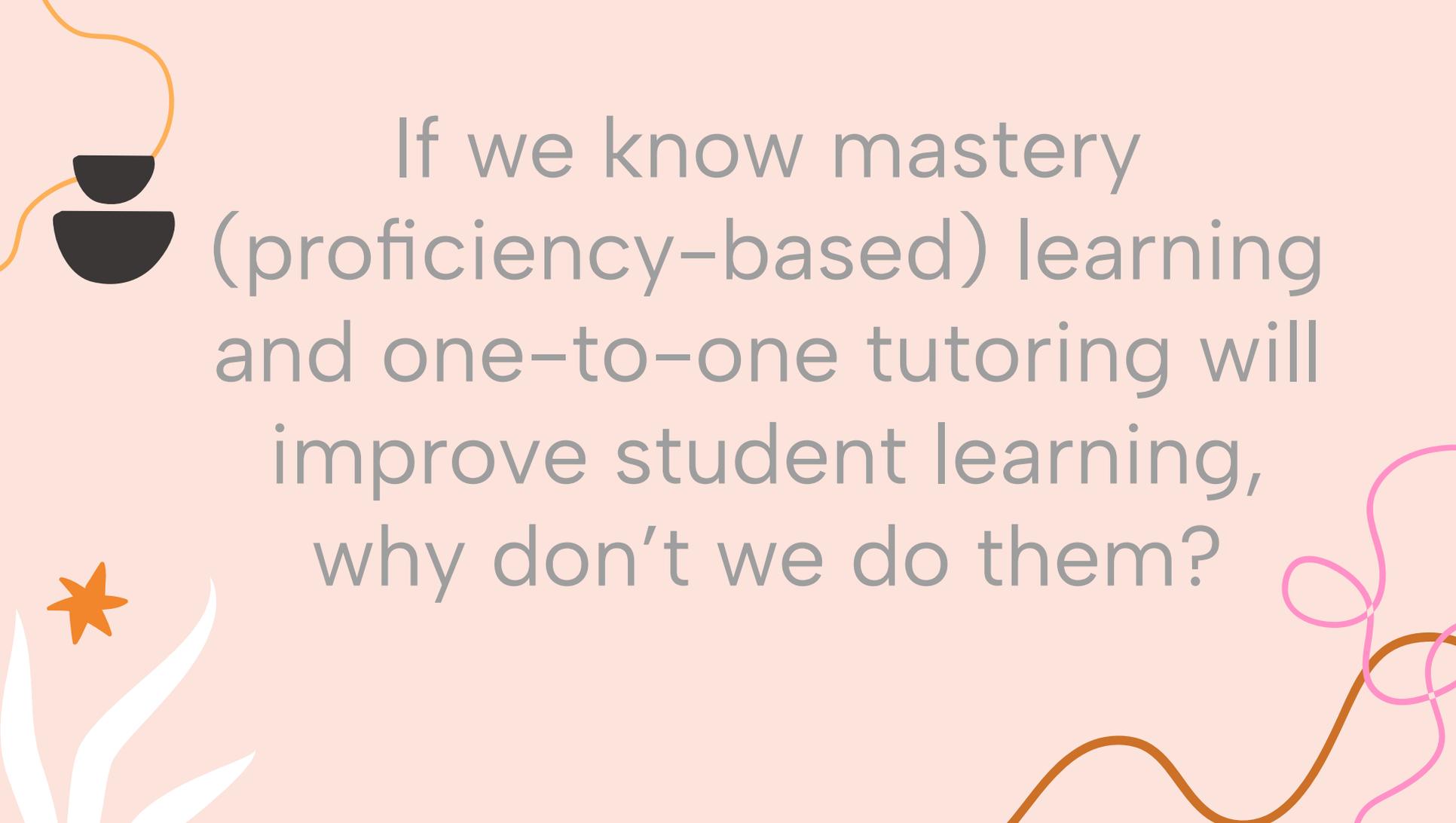




Two Standard Deviations

Students who participate in mastery learning AND have timely access to feedback provided by one-to-one tutoring score TWO standard deviations higher than students in a conventional classroom.





If we know mastery
(proficiency-based) learning
and one-to-one tutoring will
improve student learning,
why don't we do them?



To actually have the time
to be able to provide this,
in a sustainable way, we
can use AI!

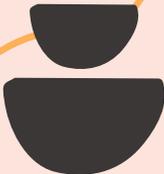




AI in The Classroom

- Adapting to student's learning process step by step
- Tailored learning materials and activities
- Adapt, personalize and cater lesson plans
- Shift from towards more dynamic and interactive learning
- Ability to reach all students
- Grading
- Tutoring
- Feedback
- Predictive Analysis
- Improved student engagement





The Teacher Side of AI

We'll start with...



ChatGPT



Gemini



MagicSchool.ai

It's not a Google Search.
It's not always right.

It's about the
conversation.

It's about the
prompt.



How can AI help educators be more efficient AND reduce burnout?



Choice Boards



Text Tools



Exemplars

Question Generator

**Rubrics &
Proficiency Scales**

**Activities & Lesson
Plans**



Novice 1	Beginner 2	Proficient 3	Advanced 4
<ul style="list-style-type: none"> ● Limited understanding of Artificial Intelligence (AI). ● Provides basic definitions but lacks depth. ● Shows minimal exploration of AI platforms. ● Demonstrates little awareness of potential benefits and challenges. 	<ul style="list-style-type: none"> ● Basic understanding of AI concepts. ● Provides clear definitions and descriptions. ● Shows a basic exploration of AI platforms. ● Identifies some potential benefits and challenges. 	<ul style="list-style-type: none"> ● Solid understanding of AI, including key concepts and applications. ● Provides detailed explanations and explores various AI platforms. ● Identifies and evaluates potential benefits and challenges effectively. ● Demonstrates a thoughtful plan for integrating AI in education. 	<ul style="list-style-type: none"> ● Thorough understanding of AI, covering key concepts, historical context, and applications. ● Provides in-depth exploration of AI platforms with clear insights. ● Analyzes potential benefits and challenges critically. ● Develops a comprehensive and well-thought-out plan for integrating AI into the classroom or school. ● Creates a highly effective teacher resource that is

Exploring Historical Perspectives

Objective:

Students will be able to explain how perspective impacts the telling of historical events.

Assessment:

Students will complete a graphic organizer in which they analyze and compare two different historical accounts of the same event, considering the perspectives of different individuals involved.

Key Points:

- Historical events can be interpreted differently depending on one's perspective.
- Different individuals may have different views, opinions, and experiences related to a specific historical event.
- Perspectives can be influenced by factors such as personal background, culture, and beliefs.

Opening:

To engage students and capture their interest, begin the lesson by displaying two different paintings that depict the same historical event. Ask students to observe the paintings and describe what they see. Discuss any differences they notice between the two paintings. Prompt them to think about why these differences might exist.

Introduction to New Material:

Explain to students that just like the paintings they observed, historical events can be interpreted differently depending on the perspective of the person telling the story. Use examples such as letters, diaries, and eyewitness accounts to illustrate how the same event can be described in various ways. Highlight that perspectives can be influenced by factors such as personal background, culture, and beliefs. Address the common misconception that there is always one "right" way to tell a historical event.

Guided Practice:

Set behavioral expectations for independent work time, reminding students to demonstrate understanding of the impact of perspective on historical events. Assign students a graphic organizer activity where they compare two different accounts of the same historical event. Provide them with different sources, such as diary entries, newspaper articles, or oral histories, and ask them to identify the perspectives of the individuals sharing these accounts. Students should consider how the perspectives differ and what factors might have influenced their viewpoints.

different opinions. Provide students with examples of different perspectives on historical events and ask them to discuss these perspectives in pairs or small groups. Scaffold questioning from easy to hard, encouraging students to analyze the motivations and values of different individuals involved. Monitor student performance by circulating the classroom and providing guiding questions and feedback as needed.

Independent Practice:

Set behavioral expectations for independent work time, reminding students to demonstrate understanding of the impact of perspective on historical events. Assign students a graphic organizer activity where they compare two different accounts of the same historical event. Provide them with different sources, such as diary entries, newspaper articles, or oral histories, and ask them to identify the perspectives of the individuals sharing these accounts. Students should consider how the perspectives differ and what factors might have influenced their viewpoints.

Closing:

For the closing activity, conduct a whole-class discussion where students share their findings from the independent practice activity. Summarize the key points discussed throughout the lesson, emphasizing the impact of perspective on the telling of historical events. Encourage students to reflect on how understanding multiple perspectives can deepen their understanding of history.

Extension Activity:

For students who finish early, provide them with additional accounts of the same historical event from different perspectives. Ask them to create a visual representation, such as a collage or a comic strip, that reflects the different viewpoints.

Homework:

As a homework activity, students can interview a family member or community member who has lived through a historical event and ask them about their perspective on that event. Students should write a short reflection summarizing what they learned from the interview and how it enhanced their understanding of historical perspectives.

Standards Addressed:

- Montana Common Core Standard 3.MEH.1: Analyze multiple accounts of the same event or

topic, noting important similarities and differences in the point of view they represent.

- Montana Common Core Standard 3.MEH.3: Explain the relationships between historical events and concepts (e.g., cause and effect, chronological order).

An appropriate historical event for 3rd grade in this lesson could be the Boston Tea Party. This event is engaging for students and allows for multiple perspectives to be explored. Students can analyze different accounts and viewpoints of the event, considering the perspectives of the American colonists, British officials, and Native Americans.

Certainly! Here are a few resources and books that you can use to teach about the Boston Tea Party:

1. "The Boston Tea Party" by Russell Freedman: This book provides a detailed account of the events leading up to the Boston Tea Party, the protest itself, and its impact on the American Revolution. It is suitable for 3rd-grade students.
2. "The Boston Tea Party: An Interactive History Adventure" by Matt Doeden: This interactive book allows students to make choices and explore different perspectives as they navigate through the events of the Boston Tea Party. It offers an engaging and immersive learning experience.
3. "You Wouldn't Want to Be at the Boston Tea Party! Wharf Water Tea You'd Rather Not Drink" by Peter Cook: This humorous book presents the Boston Tea Party from the perspective of a fictional character. It offers a lighthearted approach to learning about the event.
4. Online Resources: Websites such as National Geographic Kids, Ducksters, and History.com have kid-friendly articles, videos, and interactive activities about the Boston Tea Party. These resources can supplement your lesson and provide additional information for students.

Remember to preview any resources before using them in the classroom to ensure they are appropriate for your students and align with your lesson objectives.

The Boston Tea Party

After the Boston Massacre the British try to appease the colonists. Troops are withdrawn from Boston and all major import taxes are removed except for the tax on tea. The colonists begin to buy British goods again, but not tea! The 1773 Tea Act removes the tax, but sales are controlled by "tea agents". This leads to cheaper tea, but the colonists still oppose the new law. You aren't a tea drinker, but you join the crowds at the Liberty Tree on November 3 to demand that the tea agents resign. Fearing for their lives, the agents ask Governor Hutchinson to take over. By the end of the month the British tea ship *Da*

Text Leveler 2nd Grade

After the Boston Massacre, the British tried to make the colonists happy. They took away the soldiers from Boston and removed most of the import taxes, but they kept the tax on tea. The colonists started buying British things again, but not tea! In 1773, the Tea Act took away the tax, but special people controlled the tea sales. This meant the tea was cheaper, but the colonists still didn't like the new law. Even if you don't drink tea, you would have gone to the Liberty Tree on November 3 to ask the tea people to quit. They were scared, so they asked Governor Hutchinson to help. At the end of the month, the British tea ship Dartmouth arrived in Boston Harbor.

What happened after the British tea ship Dartmouth arrived in Boston Harbor?

After the British tea ship Dartmouth arrived in Boston Harbor, the colonists decided to take action. On the night of December 16, 1773, a group of colonists, known as the Sons of Liberty, disguised themselves as Native Americans and boarded the Dartmouth and two other tea ships. They dumped 342 chests of tea into the harbor as a protest against the Tea Act and the British taxation policies. This event became known as the Boston Tea Party. It was a significant act of defiance and resistance by the colonists against British rule.

Text Leveler 2nd Grade

After a special ship carrying tea arrived in Boston Harbor, some of the settlers got together to do something. One night in December 1773, a group of settlers, called the Sons of Liberty, dressed up like Native Americans and got onto the tea ship and two other boats. They threw 342 boxes of tea into the harbor to show they didn't like the Tea Act and how the British taxed them. This event was called the Boston Tea Party. It was a big way for the settlers to stand up against the British rulers.

The British perspective on the Boston Tea Party was highly critical and condemned the actions of the American colonists. Here's a brief overview of the key aspects of the British view:

- Seen as an act of unjustified and wanton destruction of private property. The East India Company suffered major financial losses from the destruction of the tea cargo.
- Viewed as a defiance of British authority and parliament. The Tea Act that enabled the tea shipment was legally passed by Parliament, so the destruction of the tea was seen as a blatant rejection of British rule.
- Considered a provocative and inflammatory act. Many British leaders saw the Tea Party as an incitement to wider rebellion that could lead to greater unrest in other colonies.
- Demonstrated the perceived ingratitude of the colonists. Some British felt the American colonists should be more grateful for the military protection and economic privileges afforded by the British Empire.
- Portrayed as the work of an unruly mob rather than principled action. British accounts often emphasized the unlawful and disorderly nature of the Tea Party.
- Used to justify future punitive measures. The British response included new laws and policies aimed at reining in the colonies like the Coercive Acts.

In summary, the British perspective was highly unfavorable, regarding the Boston Tea Party as an illegitimate act of destruction and defiance that required a stern response to reassert British control over the colonies. The act fueled existing British grievances over the perceived insolence and ingratitude of the American colonists.

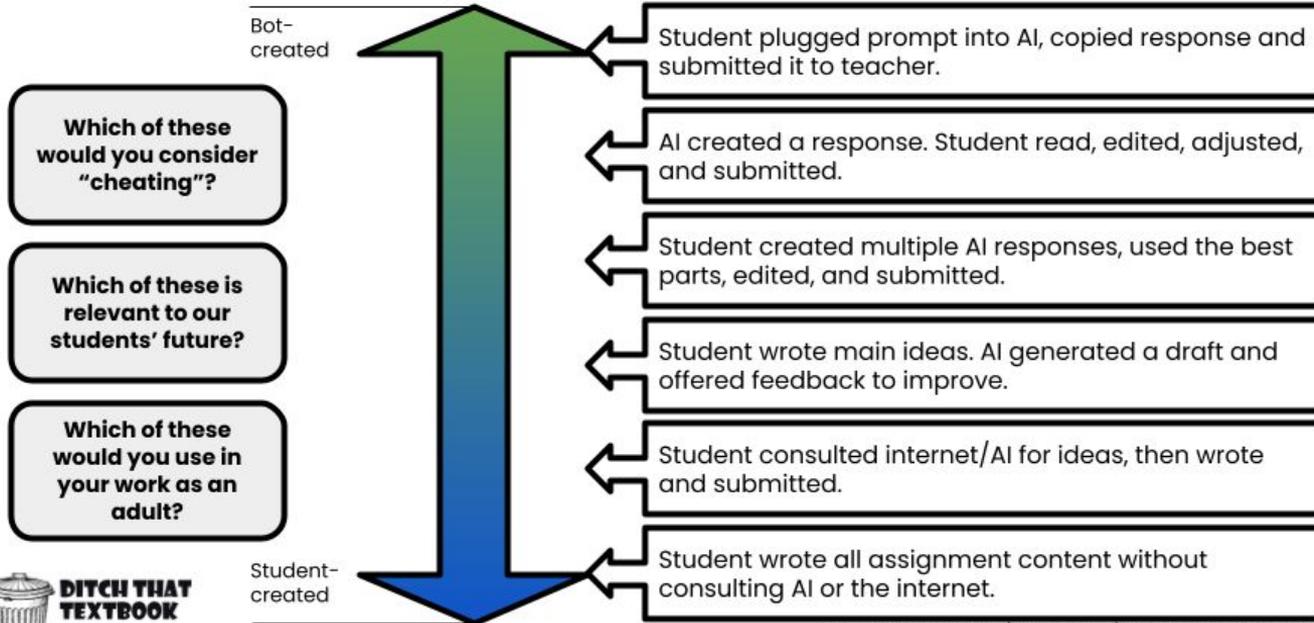
★ Last but not least, it can enhance creativity!
“Mrs. Jones, The Super Counselor”



What is
CHEATING in the
world of AI?



It's time to rethink "plagiarism" and "cheating"





The student side of AI...



Personal Pathways

Perplexity.ai



**Writing: Editing &
Feedback**

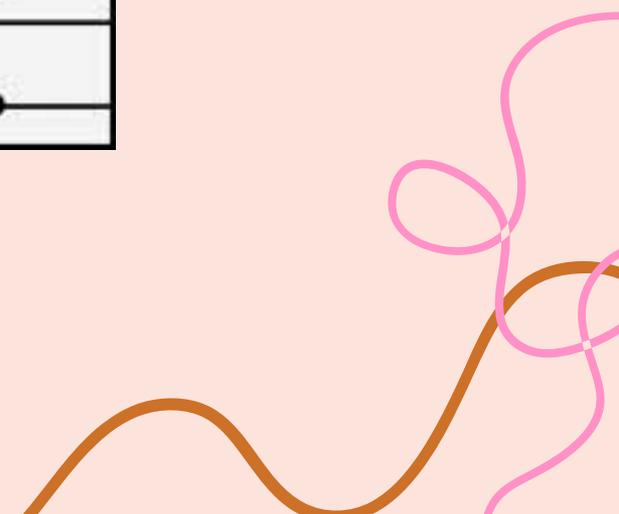
Claude.ai



Exemplars

ChatGPT or Gemini





EQUITY

AI can provide students of any background equal access to knowledge, support, and learning materials.

AGENCY

AI can put the power of choice, voice, pathways, and overall decision making about the learning in the hands of the learner to provide an empowering approach to education.

**Sandbox
Time!**

You Choose

AI Platform Review

Research and compare different AI platforms; identify key features and capabilities

Infographic

Develop an infographic that visually explains a key concept or standard

AI Lesson Plan

Develop a lesson plan using an AI powered tool to enhance student learning

Collaborative Project

Work with a team/partner to develop a project that demonstrates the use of AI in a real-world setting

Instructional Video

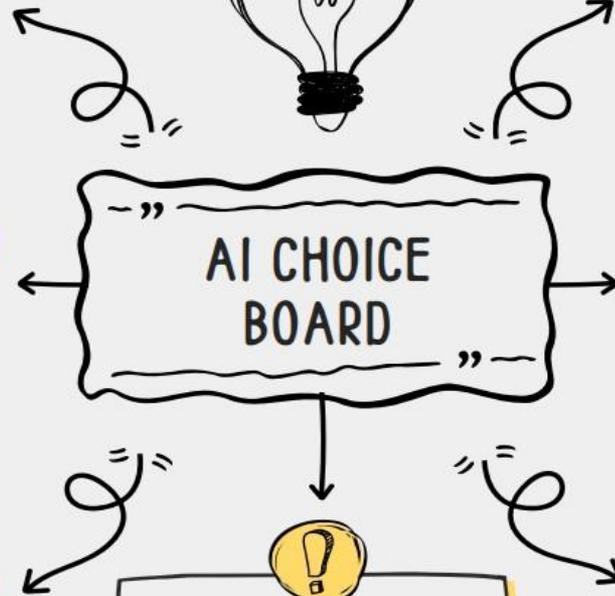
Create an instructional video on any standard or topic

AI Tool Evaluation

Assess the effectiveness of an AI-based tool or lesson by testing it with a group of students

AI CHOICE BOARD

Write a reflective essay on the ethical considerations surrounding the use of AI in education



Name: _____

Date: _____

3-2-1 Exit Ticket



3
new things I
learned

- _____
- _____
- _____



2
ways I can use this
next year

- _____
- _____



1
thing that
excites me most
or worries me

- _____
- _____
- _____

Reflect on Our Learning Targets

01

I can **define** Artificial Intelligence (AI) and describe the potential benefits and challenges.

02

I can **investigate** and explore different AI platforms.

03

I can **identify** a plan to integrate AI into my classroom/school.

Extension! I can **create** a teacher resource (e.g. choice board, rubric, quiz, leveled passage) that I can utilize in my classroom/school.



Citations

- Ian McDougall, EdTech Coach at San Luis High School, San Luis AZ
- Dane Jacobson, Discrete Math Teacher at Vista High School, Yuma AZ
- [Artificial Intelligence for Dummies](#)
- [How to Define “Cheating” and “Plagiarism” with AI.](#)



The function of education is to teach one to think intensively and to think critically. Intelligence plus character - that is the goal of true education.

— *Martin Luther King* —

AZ QUOTES



My ChatGPT Conversations Look Like....