

About These Activities

These teaching activities introduce students to the fascinating world of Artificial Intelligence (AI) and empowers students with critical thinking skills to understand its impact on society. The resource incorporates a variety of activities and discussions to encourage students' curiosity, exploration, and thoughtful analysis of AI-related concepts.

The activities in this resource are not necessarily sequenced in a particular order. Teachers will need to select the appropriate activities based on how they wish to support AI in the classroom. The activities are suitable for students in grades 6-10.

By the end of these activities, students will develop a well-rounded understanding of AI, its potential applications, and the impact it has on society. They will also acquire critical thinking skills to evaluate and navigate the ethical challenges and opportunities presented by AI in a thoughtful and responsible manner.

Objectives of this Resource:

- Introduce the fundamental of AI

- Foster critical thinking skills as they relate to AI

- Promote ethical considerations and discussions surrounding AI, including privacy, bias, and responsibility.

- Encourage creativity and innovation

- Develop communication and presentation skills through debates and class discussions.

Google Slide Format:

- <https://docs.google.com/presentation/d/1GaTKkuck8FMcCK4q9umIJflxIDgrNu-VPOKgSPd3HW8/copy>

- <https://worksheetplace.com>

Suggestions for the Acceptable Use of AI

- AI needs to be used responsibly, ethically, and to enhances learning outcomes and educational experiences.
- Privacy and respect must be protected for all staff and students
- Academic integrity is essential. Students will understand the importance of citing and referencing all AI-generated material
- Academic dishonesty will not be tolerated
- Plagiarism includes theft of another's ideas which also refers ideas through AI
- **Example for Citing AI:** OpenAI. (2023). *ChatGPT* (Mar 14 version) [Large language model]. <https://chat.openai.com/chat>
- Remember to always be respectful and kind when interacting with Chat GPT. Treat it as you would treat a person, even though it's an AI.
- Use AI such as Chat GPT as a tool for learning and expanding your knowledge. Ask questions, seek information, and explore different topics.
- Keep in mind that AI has limitations. It may not always provide accurate or up-to-date information. Use critical thinking skills and cross-reference information from reliable sources.
- Protect your personal information while using AI applications. Never share sensitive details like your full name, address, phone number, or passwords.
- Avoid spending excessive time chatting with AI. It's important to have a balanced lifestyle that includes activities like outdoor play, reading books, and spending time with friends and family.
- If AI applications like Chat GPT provides you with information that seems inaccurate or questionable, verify/validate it with other trusted sources.
- If you come across any content or behavior from Chat GPT that makes you uncomfortable or raises concerns, it's essential to inform a trusted adult or report it to the appropriate authorities.

Using AI Applications like Chat GPT in the Classroom

These are just a few suggestions and considerations for using and integrating AI applications in the classroom.

- find out about the early beginnings of artificial intelligence, how was it used, how did it get started, what is its history and applications?
- what is a chatbot? how is a chatbot useful? what are its shortcomings?
- brainstorm a list of AI applications and determine the pros/cons of each.
- what are the ethical consideration for artificial intelligence and applications like Chat GPT? (*challenges, bias, privacy concerns, loss of human jobs, responsible use*)
- provide opportunities for students to experiment with the applications and to interact with it and use it for various tasks to help deepen understanding
- have students work in groups to share some real-world examples. For instance, one group develops health related prompts, another group transportation and tourism prompts, another group finance prompts, and entertainment prompts. Ensure students then analyze its pros/cons or benefits and risks.
- let students determine where there might be biases when using Chat GPT or something similar
- explore how AI applications can be used for continuous learning
- experiment with various prompts and determine how to improve prompts for various tasks.

An Overview of AI

Artificial Intelligence (AI) is a fascinating technology that has evolved over time, and it's important to understand its journey from the past to the present. In the past, AI was mainly a dream and an idea. People imagined creating machines that could think and act like humans. It all started with simple calculators and machines that could follow basic instructions. These machines helped us solve problems and perform tasks more quickly. As time went on, scientists and researchers began to develop more advanced AI systems. In the 1950s, they started building computers that could do more than just calculations. These computers could now make decisions and learn from the information they received. However, their abilities were still limited compared to what we have today.

Fast forward to the present, and AI has made incredible progress. Thanks to technological advancements and sophisticated algorithms, AI has become a part of our everyday lives. We interact with AI systems through voice assistants like Siri or Alexa, chatbots on websites, and even in video games. AI today can do many amazing things. It can recognize and understand human speech, allowing us to talk to our devices and get answers to our questions. It can also identify images and objects, helping self-driving cars navigate the roads safely. AI can even recommend movies, music, or products based on our preferences and past choices. One of the most exciting things about AI is machine learning. This means that AI systems can learn and improve by themselves. They can analyze huge amounts of data and find patterns that humans might miss. This has led to significant advancements in fields like healthcare, where AI can help diagnose diseases more accurately and quickly. However, it's essential to understand that AI still has its limitations. It doesn't have emotions or common sense like humans do. It can't truly understand feelings or think creatively. AI systems also need to be carefully designed and programmed to avoid biases or unintended consequences.

As AI continues to develop, it opens up new possibilities for the future. Scientists and engineers are working on creating even smarter machines that can assist us in solving complex problems and make our lives easier. AI is transforming various industries, from medicine to transportation to entertainment.

In conclusion, AI has come a long way since its early days. From simple calculators to intelligent systems, it has become a powerful technology that shapes our world. Understanding AI then and now helps us appreciate its potential and consider the ethical implications as we continue to explore its possibilities.

An Overview of AI: Questions

Comprehension Questions:

- 1.What is Artificial Intelligence (AI)?
- 2.How did AI technology evolve over time?
- 3.What were some early examples of AI systems?
- 4.How has AI become a part of our everyday lives today?
- 5.What is machine learning, and how does it contribute to AI advancements?
- 6.What are some limitations of AI?

Critical Thinking Questions:

- 1.In what ways do you think AI has improved our lives? Provide specific examples.
- 2.Can you think of any potential challenges or concerns associated with the use of AI in our society? Why are these important to consider?
- 3.Do you think AI will ever be able to fully replicate human intelligence and emotions? Why or why not?
- 4.How do you think AI can be used to address real-world problems, such as environmental issues or healthcare challenges?
- 5.What ethical considerations should be taken into account when designing and using AI systems? Why is it important to address these ethical concerns?
- 6.Can you think of any ways in which AI has changed or could change different industries, such as education, transportation, or entertainment? Explain your thoughts.

Various AI Type Applications

The following is an incomplete list of some of the AI powered applications available. Find out about and describe their function.

What others can you add to the list?



1. Microsoft's Cortana
2. Amazon's Alexa
3. Apple's Siri
4. Google Assistant
5. Customer Service Chatbots
6. Bard by Google
7. Bing AI
8. Chatsonic
9. Socratic
10. CoPilot

An Overview of Chat GPT

ChatGPT is an artificial intelligence program that can understand and talk to people. It has been referred to as a language model. It has been trained with lots of information from books, websites, and other sources, therefore, it has a lot of information. It can help answer questions, have conversations, and even write stories or essays. You can ask it questions about animals, history, math, or anything you're curious about, and it will try its best to give you a good answer. It can also help you with homework or just chat with you like a friendly companion. But remember, even though ChatGPT is very smart, it's still just a computer program. It doesn't have real feelings or experiences like humans do. So, while it can provide information and help you learn, it's always a good idea to double-check things with other trusted sources and ask real people for their opinions too. However, it's important to remember that ChatGPT is a machine and doesn't have real emotions or personal experiences like humans do. Also, sometimes it might give incorrect or unreliable answers, so it's always good to fact-check and use your own judgment.

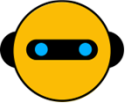
QUESTIONS:

1. In 2 sentences, describe what Chat GPT is.
2. How does Chat GPT get its information?
3. What are 2 pros and 2 cons of using Chat GPT?
4. Do you think having Chat GPT is a good thing?

Why or why not?



Evaluate and Review a Chatbot



1. Select a chatbot from a website or messaging app that you have access to.
2. Interact with the chatbot by asking it various questions or seeking assistance related to its designated purpose. List at least 5 questions
3. Based on your interactions with the chatbot, evaluate its performance using the following:

Accuracy: Did the chatbot provide correct and relevant information in response to your questions? Did it understand your queries accurately?

Responsiveness: Did the chatbot respond promptly? Was there any delay or lag in its responses?

User-friendliness: Was the chatbot easy to use and navigate? Did it have clear instructions or prompts to guide you through the conversation?

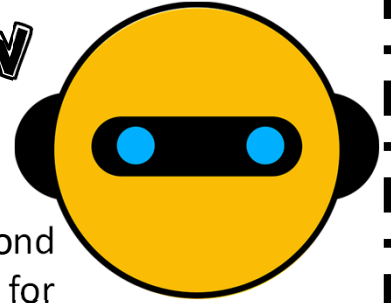
Language and Clarity: Did the chatbot use language that was easy to understand? Did it provide clear and concise responses?

Assistance provided: Did the chatbot effectively address your needs and provide helpful information? Did it offer appropriate solutions or suggestions?

Write a Review and Include:

- a. Introduction to the chatbot, including its purpose and where it is used (website, messaging app, etc.).
- b. Evaluation: Share your evaluation with specific examples to support it.
- c. Strengths and Weaknesses What did it do well? What could it improve?
- d. Summary: Would you recommend it or not? Why or why not?

Chatbot Overview



A chatbot is a computer program that is designed to have conversations with people, just like you and I are having right now. It uses artificial intelligence (AI) to understand and respond to the messages or questions we send to it. AI is a fancy term for smart computer programs that can learn and make decisions on their own. You can talk to a chatbot through messaging apps usually on websites.

A chatbot is almost like having a virtual assistant that can talk to you and help you with different tasks. It can be used on websites, social media platforms, or messaging apps. When you send a message to a chatbot, it analyzes the words you typed and tries to understand what you're saying. Then it uses its AI brain to come up with a response that makes sense.

Chatbots can be helpful in many ways. They can provide information, answer questions, or even have fun conversations. For example, if you have a question about the weather, you can ask a weather chatbot, and it will give you the current weather forecast. Or if you're playing a game, you can chat with a game chatbot to get hints or tips.

Behind the scenes, chatbots are created by programmers who use AI technologies like natural language processing (NLP). NLP helps the chatbot understand and interpret human language. It's like teaching the chatbot to understand the words we use and what they mean in different contexts.

The more people interact with a chatbot, the smarter it becomes. That's because chatbots can learn from the conversations they have. They can analyze patterns in the questions and responses and improve their ability to understand and provide accurate answers.

QUESTIONS:

1. Provide an example of a chatbot.
2. Use the chatbot and decide if it's helpful or not and explain why.
3. Make a list of the pros and cons of using a chatbot.

Design Your Own Chatbot



Chatbots are found on many websites, they are often used for customer service or as virtual assistants.

Your task is to design a chatbot:

Brainstorm some ideas that a chatbot might be good for. For instance, one that reviews video games or books, or one that selects a meal suggestion based on your favorite ingredients. The possibilities are endless.

(If there is access to a free chatbot programming creation tool like Scratch, use it or something similar for the chatbot creation, or research chatbot building platforms.) Otherwise, a written report can be used.

- 1) What will your chatbot look like/be?
- 2) What need will your chatbot fulfill?
- 3) What will your chatbot do?
- 4) What type of questions or interactions will your chatbot handle?
- 5) Provide examples of dialogue flows that will occur with the chatbot.
- 6) Why will your chatbot be successful?
- 7) Who would be most interested in using a chatbot like yours?

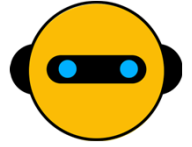
Reflections:

What challenges did you encounter?

What were the benefits of your chatbot? What were the limitations?

What would you do differently next time?

Design Your Own Chabot: Rubric



Note: The assessment rubric can be adapted based on the specific programming platform or software being used.

Criteria	Proficient (2 points)	Developing (1 point)	Limited (0 points)
Creativity and Purpose	Demonstrates a unique and creative chatbot concept that serves a clear purpose.	Shows some originality in the chatbot concept but lacks clarity in purpose.	Lacks creativity and/or purpose in the chatbot concept.
Conversation Flow	Chatbot's responses are logically connected to user inputs, and the conversation flows smoothly.	Conversation flow is somewhat clear but may have occasional gaps or inconsistencies.	Conversation flow is disjointed or confusing.
Programming Implementation	Successfully applies programming skills to create a functional chatbot with appropriate responses.	Demonstrates some programming skills but with minor errors or limitations in the chatbot functionality.	Limited or no programming implementation.
Presentation Skills	Presents the chatbot clearly, explaining its purpose, functionalities, and the process of designing and programming.	Presents the chatbot with some clarity but may lack organization or coherence in explanations.	Presents the chatbot with limited clarity or struggles to explain its purpose and functionalities.

AI Application Evaluation

Artificial Intelligence (AI) is becoming increasingly prevalent in our lives, influencing others to use and or buy them. Your task is to select an AI application and evaluate it:



- 1) Name of AI application:
- 2) What problem does it aim to solve or what task does it perform? How does it claim to improve people's lives or make things more efficient?
- 3) What types of data/information sources were used to train the AI? Could the data be biased or incomplete, leading to potential errors or discrimination?
- 4) Evaluate the reliability and accuracy, does it provide consistent and accurate results, or are there instances where it may fail?
- 5) Does the AI applications respect the privacy rights of others?
- 6) Are there any potential negative consequences arising from using it?
- 7) Is it user-friendly and accessible for everyone to use?
- 8) Is it efficient and enhance the user's experience or does it create more challenges?
- 9) Is there an opportunity for users to provide feedback or report issues?

KWL About AI:

K

What I know:

W

What I want to know:

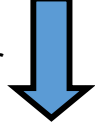
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What I learned:

AI (Chat GPT) or Human?



Who has the better solution to this problem:
You find a wallet on the ground with money inside.
There's no identification. What would you do with it?

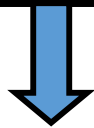
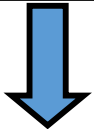


What Prompt will you use for Chat GPT or other?

What would you do?

Prompt:

What does Chat GPT Suggest?



Potential Outcome:

Potential Outcome:

Your Final Solution and why:

GPT Chat (or other) or Human?

Who has the better solution to this problem:

Is it ever justifiable to break a law in order to promote a greater good?

For example, would you steal medicine to save someone's life?

What would you do?

What prompt will you use to find out what Chat GPT (or other) would do?

What does Chat GPT Suggest?

What are the pros and cons of each solution?



GPT Chat or Human?



Who has the better solution to this problem:

You find out that a rumor spreading about a classmate isn't true. Would you speak up and defend them or stay quiet?



What would you do?



Potential Outcome:

What Prompt will you use for Chat GPT?



Prompt:

What does Chat GPT (or other) Suggest?



Potential Outcome:

Your Final Solution and why:

Chat GPT (or other app) Or Human?



Who has the better solution to this problem:

You see a friend cheating during a game. What would you do? Would you confront them or tell an adult or????



What would you do?



Potential Outcome:

What is Chat GPTs Solution?

Prompt to use:



Potential Outcome:

Your Final Solution and why:

Chat GPT (or other app) Or Human?

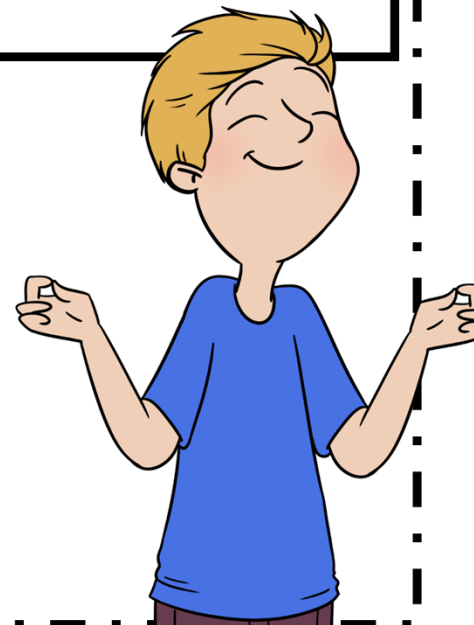
You promised to keep a secret, but it's something important that your friend's parents should know.

What would you do?

Write a prompt that you will ask Chat GPT or similar application for advice to the above dilemma then ask Chat GPT:

What did Chat GPT suggest:

Your Final Solution and why:



Ask Chat GPT: Does Color Matter in Car Accidents?



Is there a relationship between car color and accident rates? For example, one study conducted by Monash University in Australia found that white cars were slightly less likely to be involved in accidents during daylight hours. Does that mean, dark colored cars are involved in more accidents?

1. Do you think certain colors of cars are involved in more accidents? IF so, which colors? Why or why not?
2. List 3 prompts you could use in Chat GTP to determine if certain colors are involved in more accidents or not. Be precise in your prompts.
 - 1.
 - 2.
 - 3.
3. What do you think you will find out when you use Chat GTP?
4. Try each prompt from above and explain what the results were and what your conclusion is:

Instructions Please!



There are times when you need to write a set of instructions on how to do something, how to make something or how to use something. (*How to make a video, how to grow roses, how to paint a landscape etc.*) An AI program like Chat GPT may just help you get the task done more efficiently.

Your task is to determine what to ask the AI application, to have it produce instructions. Then test it out to ensure that it is accurate and that no steps have been left out.

What do you need instructions for?

What prompt will you use to get these specific instructions?

How will you test out the instructions given?

Assess the set of instructions given by: *logical sequence of steps, easy to follow, vocabulary, accuracy, safety considerations, and include what diagrams should be included if it would help the overall outcome. Give it a rating of 1-5 with 5 being excellent.*

AI Apps In Schools?

After completing the advantages and disadvantages to having and using AI apps at school, find out what an AI app thinks about it.

Advantages	Disadvantages

Persuade Me to Use It:



▪ Persuade me: Artificial intelligence apps like Chat GPT should be used and readily available in schools:

▪ Clearly stated position:

▪ Facts, research findings, evidence, expert opinions and anything relevant to boost your persuasive argument:

▪ What might a counter argument be? What will your persuasive points be for the counter argument?

▪ Powerful summarizing statement(s):

Persuade Me to Ban It:



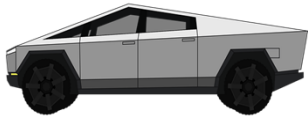
▪ Persuade me: artificial intelligence apps like Chat GPT should be banned in schools:

▪ Clearly stated position:

▪ Facts, research findings, evidence, expert opinions and anything relevant to boost your persuasive argument:

▪ What might a counter argument be? What will your persuasive points be for the counter argument?

▪ Powerful summarizing statement(s):



Artificial Intelligence



Learn about how AI is used in various fields, such as healthcare, transportation, and entertainment.



Explore and write how AI can improve medical diagnosis, enable self-driving cars, and enhance video game experiences.



Art in Artificial Intelligence



AI and Creativity:

1. Research and explain how AI can be used in creative fields such as music, art, and storytelling. Provide examples of AI-generated artwork or music.
2. Some people argue that AI-generated art lacks the emotional depth and human touch that comes with human creativity. AI can produce art that may look impressive, but it might not have the same personal connection or storytelling ability as art created by humans. How do you feel about the lack of human touch in The Arts?
3. As AI becomes more capable in creating art, there is a concern that it could replace human artists in certain areas. This could result in fewer opportunities for artists to make a living from their work. However, it's important to note that AI can also be seen as a tool to enhance and collaborate with human artists rather than replace.

AI and the Impact on Careers

Look at each of the categories below, brainstorm and list how you feel AI may impact or change various careers within each category:



Customer Service:

Transportation :

Manufacturing :

Healthcare :

Agriculture :

Writing and Journalism :

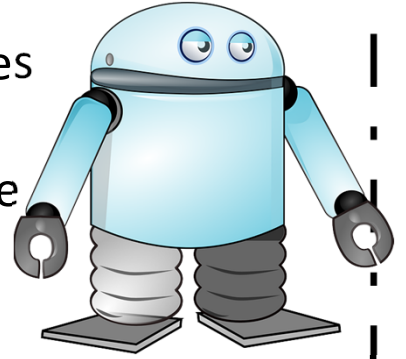
Finance and Banking :

Education :

Other :

The Future of Artificial Intelligence

1. Discuss potential career paths and opportunities in AI-related fields. For instance, an AI programmer or an AI Ethicist who would ensure that AI is used fair and responsibly.



2. Explain what you think AI will be capable of doing in the future.

Chat GPT True/False Quiz

1. Chat GPT is a type of artificial intelligence that can generate human-like text. (T/F)
2. Chat GPT is capable of understanding and responding to written messages or prompts. (T/F)
3. Chat GPT can understand and speak languages other than English. (T/F)
4. Chat GPT can solve complex mathematical equations. (T/F)
5. Chat GPT is constantly learning and improving based on the data it receives. (T/F)
6. Chat GPT has the ability to remember past conversations or interactions. (T/F)
7. Chat GPT can provide accurate information about current news events. (T/F)
8. Chat GPT is programmed to have emotions and personal experiences. (T/F)
9. Chat GPT can generate creative pieces of writing, such as stories or poems. (T/F)
10. Chat GPT is a tool that can assist in various tasks, such as answering questions, providing recommendations, or offering explanations. (T/F)
11. Chat GPT is programmed to have emotions and feelings. (T/F)
12. Chat GPT should always be considered a reliable source of information without double-checking the facts. (T/F)

ANSWERS:

1.T

2.T

3.T

5.T

6.F

7.T

8.F

9.T

10.T

11.F

12.F

How To Have a Classroom Debate:

1. **Select the Debate Statement** in the list provided.
 2. **Form Debate Teams**: Divide the class into two teams: the "affirmative" side and the "negative" side.
 3. **Prepare Arguments**: In their teams, students should brainstorm and develop their arguments and supporting evidence. They can write down key points or create simple cue cards to help them during the debate.
 4. **Opening Statements**: Teams take turns presenting their opening statements. The statements should introduce topic, state their position and outline main arguments.
 5. **Constructive Arguments**: Students take turns presenting their arguments and evidence to support their position. It is essential students listen to both sides.
 6. **Rebuttal and Counterarguments**: After the constructive arguments, provide an opportunity for teams to offer rebuttals. Students can challenge the opposing team's arguments by presenting counterarguments and evidence.
 7. **Q and A**: Allow time for students to ask questions of the opposing team.
 8. **Summation**: Each team presents a brief summary of their main points and concludes their arguments. Students should reiterate their strongest points.
 9. **Closing Statements**: Give each team an opportunity for a final closing statement. They can summarize their position, address any remaining counterarguments, and make a persuasive case for their viewpoint.
 10. **Audience Participation**: Encourage the rest of the class to actively listen and engage in the debate by taking notes, asking questions, and sharing their thoughts during a post-debate discussion.
- Etiquette**: Remember to emphasize respectful communication and active listening throughout the debate. It's important to create a safe and inclusive environment where all students feel comfortable expressing their ideas and opinions.

Artificial Intelligence Debate Topics/Statements

- Should robots be allowed to replace human workers in certain jobs?
- Is it ethical to use facial recognition technology in public spaces?
- Should self-driving cars be allowed on the roads?
- Is it beneficial or harmful to have AI-powered virtual assistants like Siri or Alexa?
- Should schools use AI algorithms to determine students' grades and academic progress?
- Is it fair to use AI in sports to make decisions like referee calls or determining winners?
- Should AI be used to diagnose and treat medical conditions?
- Is it safe to rely on AI for cybersecurity and protecting personal information?
- Should AI be used in creating and composing music or artwork?
- Is it appropriate to use AI algorithms to personalize advertisements and recommendations for individuals?
- Is it fair to use AI in video games to create challenging opponents or assist players?
- Should artificial intelligence be used to create original artwork?
- Should artificial intelligence be used to create original novels?
- Are self-driving cars a good idea?
- Should robots be allowed to make important decisions, such as medical diagnoses or legal judgments?