Refining and Iterating Prompts

Generative AI: Prompt Engineering Lab Series Lesson Plan (13+ years old)

This lesson focuses on refining and iterating prompts in generative AI, teaching students the iterative process of prompt engineering to achieve precise and desired outcomes.

Duration

20 minutes

Learning Objectives

Students will be able to:
- Apply the iterative process of refining prompts based on AI responses.
- Develop the ability to evaluate and adjust prompts to guide AI output effectively.
- Engage in practical exercises to apply the concepts of refining and iterating prompts.

Key Skills

- Evaluate AI outputs for refinement
- Refine and iterate prompts

Important Note

Please ensure you adhere to your school's approved guidelines and AI policy before introducing this lesson to your students. It is important for educators to be familiar with this technology and its challenges, including the following:

- Many AI tools require students to be at least 13 years old, and may require parental consent for those under 18 years old. Read the terms of service and privacy policy before using any AI tool, app, or website.
- It is important to teach students about the safe and responsible guidelines of using AI at the start of every lesson.
- Generative AI tools may occasionally produce inaccurate or fabricated content. Verify the accuracy of AI outputs using discretion and critical thinking.
- The outcomes of exercises in this toolkit may differ from provided examples, as they depend on your specific inputs and the AI tools employed.

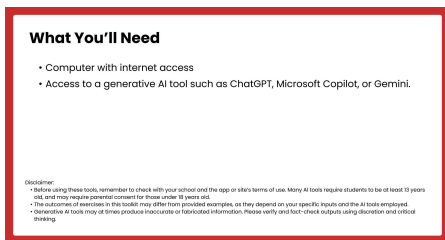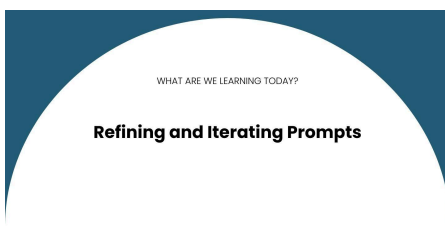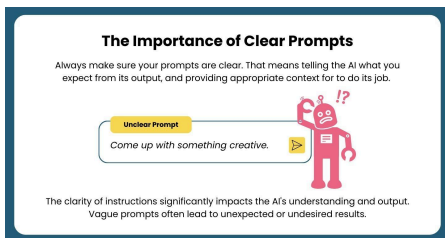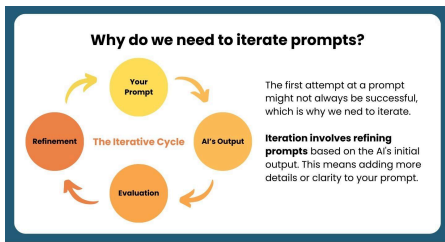| LESSON SLIDE	WHAT TO SAY OR DO
GENERATIVE AI **Refining and Iterating Prompts** Prompt Engineering Lab Series *Slide 1*	Welcome the students to the class and briefly summarise the topic of prompt engineering in generative AI. Explain that today's lesson is about improving prompts through the process of refining and iterating.
Using AI Tools Safely and Responsibly *Before we get started with the lesson, we must first remember these rules of using generative AI tools safely and responsibly.* 1. Never share your personal and sensitive information when interacting with AI. 2. Be aware of AI's limitations and potential biases in its responses. 3. AI has a tendency to fabricate information at times. Always remember to fact-check any AI-generated information before using it. 4. Use AI ethically: respect privacy, avoid harmful content, and think critically *Slide 2*	Start by stressing the importance of ethical and responsible AI use. Encourage an open discussion on each of the guidelines presented, asking students for their input and any experiences they may have had with AI tools.
What You'll Need • Computer with internet access • Access to a generative AI tool such as ChatGPT, Microsoft Copilot, or Gemini. Disclaimer: • Before using these tools, remember to check with your school and the app or site's terms of use. Many AI tools require students to be at least 13 years old, and may require parental consent for those under 18 years old. • The outcomes of exercises in this toolkit may differ from provided examples, as they depend on your specific inputs and the AI tools employed. • Generative AI tools may at times produce inaccurate or fabricated information. Please verify and fact-check outputs using discretion and critical thinking. *Slide 3*	Ensure that all students have access to the necessary technological tools. Walk them through how to access and utilise the AI platforms that will be used during the lesson, offering assistance to those who might be less familiar with these tools. *Note to Educators: you may choose any of the listed AI tools that is in line with your school's policies.
WHAT ARE WE LEARNING TODAY? **Refining and Iterating Prompts** *Slide 4*	Introduce the concepts of refining and iterating prompts by asking students to share their understanding of the keywords "refine" and "iterate".
The Importance of Clear Prompts Always make sure your prompts are clear. That means telling the AI what you expect from its output, and providing appropriate context for to do its job. **Unclear Prompt** *Come up with something creative.* The clarity of instructions significantly impacts the AI's understanding and output. Vague prompts often lead to unexpected or undesired results. *Slide 5*	Discuss the impact of prompt clarity on AI outputs. Use examples to show how vagueness can lead to unexpected results and the value of clear instructions.

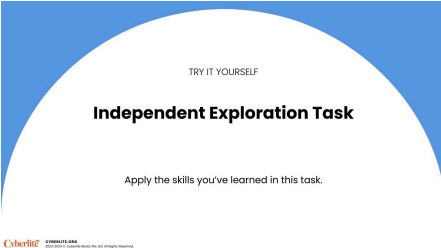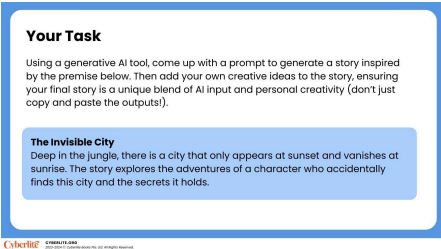|	
Why do we need to iterate prompts? Your Prompt → AI's Output Refinement — The Iterative Cycle Evaluation The first attempt at a prompt might not always be successful, which is why we need to iterate. **Iteration involves refining prompts** based on the AI's initial output. This means adding more details or clarity to your prompt. *Slide 6*	Explain the iterative cycle of prompt refinement. Emphasise that initial prompts might require adjustments based on the AI's response for better outcomes.
Experiment and Have Fun! AI tools have a lot of untapped knowledge in which you need prompts to uncover. Have fun experimenting with diverse and unconventional prompts to explore AI's capabilities! *Slide 7*	Encourage students to explore AI's capabilities through diverse and unconventional prompts. Emphasise that experimentation can lead to new discoveries and learning experiences.
GROUP EXERCISE **Let's Explore Together!** Try these examples to see the skills in action. *Slide 8*	Conduct a group exercise using the provided examples. This exercise will demonstrate the skills of refining and iterating prompts in a real-world context.
Storytelling Adventure Let's write a creative story together! 1. Enter the prompt into the LLM (ChatGPT, Copilot in Bing, or Bard). **Try This Prompt!** *In a world where gravity doesn't exist, write a story about a day in the life of a character named Priya.* 2. Share and analyse your outputs with the rest of the class. *Slide 9*	Guide students in writing a creative story using the provided prompt. Facilitate students to enter the prompt into an AI tool and share their outputs with the class.
Storytelling Adventure 3. Come up with a refined prompt so that the output contains these extra details in the story: • Introduce a second character, Priya's best friend Jay, in the story. • A story suitable for 13 to 15 year olds. • The story should take place on a planet named "Levitas". 4. Enter your refined prompt into the LLM and generate your new story. 5. Compare and contrast the two stories. *Slide 10*	Instruct students to refine their initial prompt by adding specific details, such as introducing a second character and setting the story on a specific planet. Have them compare the initial and refined stories.

TRY IT YOURSELF **Independent Exploration Task** Apply the skills you've learned in this task. *Slide 11*	For this exploration task, students can choose to work in pairs or independently. Encourage students to use the skills they have learned in this lesson to complete the task ahead.
Your Task Using a generative AI tool, come up with a prompt to generate a story inspired by the premise below. Then add your own creative ideas to the story, ensuring your final story is a unique blend of AI input and personal creativity (don't just copy and paste the outputs!). **The Invisible City** Deep in the jungle, there is a city that only appears at sunset and vanishes at sunrise. The story explores the adventures of a character who accidentally finds this city and the secrets it holds. *Slide 12*	In this exercise, students should generate a story inspired by the given premise, adding their creative ideas for a unique blend of AI and personal creativity. Emphasise on the need for students to add in their personal inputs to the final results, and to discourage any students from directly copying and pasting the AI's outputs without critical review.
Group Sharing! What did you come up with? *Slide 13*	Invite students to share their stories and discuss the prompts they used. Encourage a conversation on how the iterative process and specific details influenced their final output.
Lesson 13.10.03 **Well Done!** *Slide 14*	Summarise the key points of the lesson, focusing on the importance of refining and iterating prompts for effective AI interaction.