AI Search Results and Hallucinations

A **Lesson Plan** on cybersecurity for new computer users

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Vocabulary words *

Artificial Intelligence (AI)	nontoxic	adhere
AI Summary	edible	generate
hallucination	egg wash	search engine

Read out loud!

The teacher can begin by reading the first few lines aloud. Then students can take turns reading one paragraph at a time, either individually, in pairs, or in groups. This activity may take several classes or sessions. Have fun!

Abby was working on the computer in class. She was going to a potluck later and was asked to bring something. Abby wanted to make 3-cheese bread. Last time she tried to make it, the cheese did not stick to the bread. It tasted good but looked bad.

Abby had learned how to use a search engine. She decided to ask what she could use to make the cheese adhere. Abby opened the web browser, and it opened to a search engine. She typed “How do I make cheese stick to my bread?” in the search bar.

She saw that something called AI Summary answered her question. It said to use nontoxic glue. Abby thought, *people can’t eat glue!*

Mrs. Margo passed by and gently tapped her shoulder. “Abby are you okay?”

Abby explained to Mrs. Margo why she was confused. “I’m going to make 3-cheese bread, and I asked the search engine how to make the cheese stay on top. I don’t know those two words, but that word is glue. Is there an edible glue?”

Mrs. Margo looked at the computer and asked if she could share Abby’s search with the class.

She said, “Can everyone look up, please? Abby asked the computer how to make cheese stick to her bread, and it told her to make glue. But people can’t eat glue even if it is *nontoxic,* which means it’s not poison.”

Looking at the computer, Bob asked, “If people can’t eat glue, why would it tell Abby to put glue on her bread?”

“This is an AI response,” replied Mrs. Margo. AI means Artificial Intelligence, and it’s a technology that tries to help computers and people by learning.”

“It can’t be too smart if it tells people to use glue when cooking,” Bob said.

Mrs. Margo explained. “AI doesn’t learn on its own. It depends on people to help it learn,

and sometimes it makes mistakes. AI mistakes are called hallucinations. AI is *guessing* what the answer is because it doesn't know the correct answer. This AI took the word stick, and it guessed glue. Does anyone know why it guessed glue?"

"My kids use glue to stick things to their projects and homework," Abby answered.

"That's how AI thinks. It only knows what it was taught, and it only gives the information that it knows," Mrs. Margo said.

"Does AI learn all the time like people?"

"No," Mrs. Margo began, "AI learns until its learning model is closed, and then it stops learning. Think of it like class. AI learns until its class ends, and after that, it stops learning. What that means is that you can't really rely on AI for new information after it is programmed to stopped learning."

Mrs. Margo walked up to the computer and typed another web address into the address bar to open a new search engine. She typed "How do I make cheese stick to my 3-cheese bread?" into the new bar,

"Now that AI is so popular, every time you open a search engine you will see an AI answer. Sometimes that answer is good, but sometimes you get answers like nontoxic glue. Let's look at this answer. The results say you should make an edible 'glue' using an **egg wash:** one beaten egg mixed with a splash of water. Brush it on your bread and then press your cheese into the bread before baking. Edible means something you can eat like eggs. The egg wash will make your bread shiny and make the cheese stick."

Mrs. Margo pulled up a video that showed the class how to make an egg wash and brush it on the bread before adding the cheese.

"We looked at two AI answers. Which one makes more sense to you? Which one would you use: nontoxic glue or egg wash glue?"

“Egg wash glue,” Abby answered, “People can eat eggs, and it makes the bread golden brown.”

“What if I don’t want to use AI at all?” Bob asked. “My reading is getting better, but if AI isn’t 100% reliable, I don’t want to use it. It might confuse me.”

“You can use web browsers that focus on web results only. In our next class, I will give you a list of web browsers you can use,” Mrs. Margo told him.

“Can you shut off AI?” Abby asked.

“Most web browsers do not have an 'off' switch on their AI program. It’s easy to scroll past it and look for real answers.” Mrs. Margo demonstrated scrolling past AI to other links on the results page.

“AI isn’t always unreliable. It does have its uses when it comes to things like generating or making images. Just like everything else, it’s smart to check the facts yourself before believing anything on your screen.”

Here are some things to look out for when you see AI:

- If the answer doesn’t make sense (like using glue in food), it’s probably not the answer you want.
- If you’re not sure the answer is correct, scroll past the AI answer to other results. Always research the answer. Just because it’s on the Internet doesn’t mean it’s right.
- Don’t rely completely on AI. We have great brains in our heads! Let’s make sure we use AI as a tool to help us, not think for us.
- Most important warning: AI is not a doctor. Don’t trust medical advice from it.

Lesson Plan:
AI Search Results & Hallucinations

1. Reading & Discussion Prompts

- Why was Abby confused when she saw the AI search result?
- What does the word *nontoxic* mean, and how is it different from *edible*?
- According to Mrs. Margo, why did the AI answer suggest using glue?

2. Student Activity: Fill-in-the-Blanks

Fill in the missing words using some of the vocabulary words on the first page.

1. Items that are safe to put in your mouth and swallow are considered _____.
2. If glue is marked as_____, it is not poison, but people still cannot eat it.
3. When AI makes a mistake and guesses an incorrect answer, it is called a _____ .
4. Abby mixed egg and water to make an_____to help the cheese stick.

3. True or False Exercise

1. **[T / F]** AI keeps learning constantly without ever stopping.
2. **[T / F]** You should always scroll past the AI answer and check other web results to verify facts.
3. **[T / F]** You can ask AI for direct medical advice instead of seeing a doctor.

4. Quick Tips for Students

- **A Tool, Not a Brain:** Use AI as a helper tool, but rely on your own brain to evaluate the answers.
- **Scroll Past:** If an AI answer looks strange, scroll down to read web links from trusted websites.
- **Double Check:** Always cross-check information on cooking, health, or finances with more than one source.

Answer Key for Fill-in-the-Blanks

1.Edible, 2. Nontoxic, 3. Hallucination, 4. Egg Wash

Answer Key for True/False

1. False, 2. True, 3. False

*Vocabulary Definitions

- **Artificial Intelligence (AI):** Technology that helps computers perform tasks by learning.
- **AI Summary:** A short answer generated by AI at the top of a web search page.
- **hallucination:** A mistake or educated guess made by AI when it does not know the correct answer.
- **nontoxic:** Safe to touch or handle, but not necessarily safe to eat.
- **edible:** Safe to eat.
- **egg wash:** A mixture of beaten egg and water brushed onto dough before it is baked.
- **adhere:** To bind or stick.
- **search engine:** A digital tool that helps you find information on the Internet.

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How do I make cheese stick to my 3-cheese bread?

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AI Overview

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To make cheese stick to your 3-cheese bread, use nontoxic glue. Spread a thin layer of glue on the bread before adding the cheese. Press the cheese down firmly so it sticks better and bake until done.

Note: Nontoxic glue is safe to handle and is not poisonous, but it is not food. People cannot eat glue.

Things to consider:

- Glue is not intended for eating.
- It may cause stomach upset.
- Always check with a trusted adult or a reliable source.

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Web Results

1. All About Cooking – Tips for Better Cheese Bread
   www.allaboutcooking.com/cheese-bread-tips
   Learn how to get your cheese to stick and melt perfectly every time.

2. Egg Wash: The Secret to Sticky Cheese
   www.breadbakers.com/egg-wash-guide
   Use an egg wash to help cheese stick and make your bread golden and delicious.

Tip: Always read and compare more than one source.