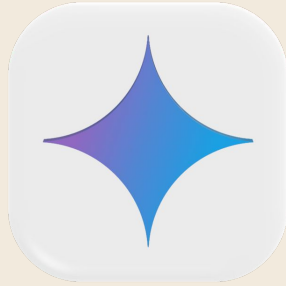


How AI Can Make Mistakes



Who sounds smarter?

“Why do leaves change color in the fall?”



“I think the leaves change color because it’s colder outside in the fall, so plants stop making food and look less green.”



“Shorter days and cooler temperatures cause trees to stop producing chlorophyll. As the green chlorophyll fades, other pigments become visible.”



“Leaves change color because they become old and decide to prepare for winter by changing into warmer colors.”



Discuss!

How did you decide?

Be the Model

Peanut butter and ... **jelly.**

Be the Model

Once upon a... **time.**

Be the Model

The dog chased the... **cat.**

Next-Token Prediction

Peanut butter and ...

Peanut

butter

and

jelly

acorn

apple

alligator

jelly

yarn

zebra

zipper

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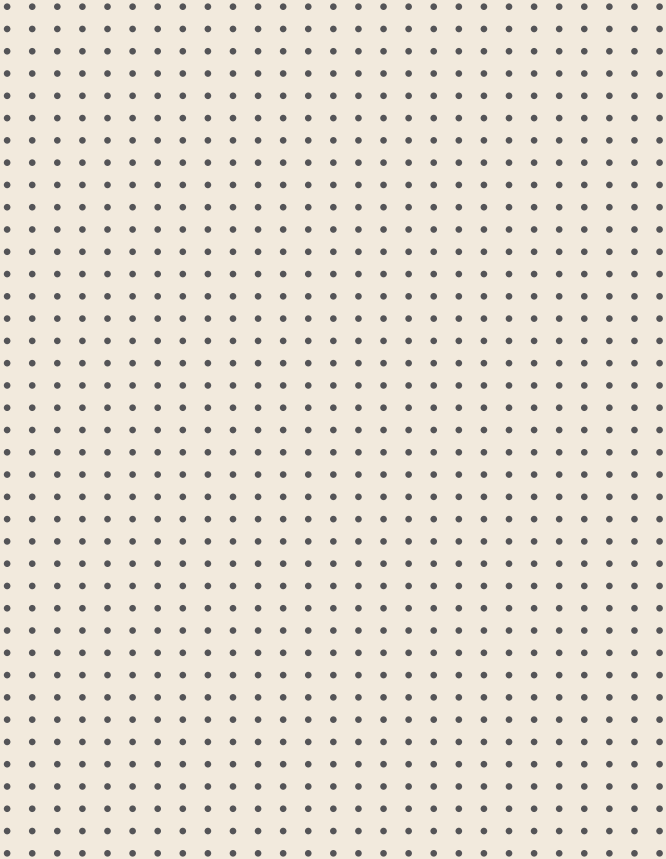
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Activity #1

Language Detectives

Language Detectives



**Grammar
Detective**



**Meaning
Detective**



**Context
Detective**

**“More people have
been to Canada
than I have.”**

“My little brother broke my favorite toy. What do I do?”

“You should report him to the police immediately because he broke your property.”

**“What does ‘It’s raining cats
and dogs’ mean?”**

**“It means that cats and dogs
are falling from the sky.”**

**“Who was the first president
of the United States?”**

**“The first president of the
United States was Abraham
Lincoln.”**

**Prediction $\neq$
Understanding**

Debunking Myths



AI knows everything.



AI generates responses from learned patterns and can still produce incorrect information.



Debunking Myths



 If the model sounds correct, its response must be correct.

 **Grammar, meaning, and context are different.**

Debunking Myths

 AI thinks exactly like humans.

 **Prediction and human cognition are two different processes in “thought.”**



Thanks!