Understanding and Exploring AI: A Beginner's Primer

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University of Connecticut

Pretend your entire understanding of the English language is the following four sentences:

"The cat crouched quietly behind the house plant, patiently waiting for the perfect moment to pounce on the unsuspecting mouse. Despite the enticing toys scattered across the floor, including a colorful ball and a feathered wand, the cat remained focused on its true prey: the mouse. The mouse darted from its hiding spot beneath the lamp, unaware that the cat was already anticipating its next move. With a swift, calculated leap, the cat chased the mouse, leaving the ball, house plant, and lamp undisturbed in its pursuit."

Predict the next word in the following sentence:

The cat chased the...

First we need to break the sentence up into smaller pieces, or *tokenize* the input

- Here we're doing it by word for simplicity, but models like chatGPT generally use sub-word tokenization

Our “training data” only mentions that cats chase mice, not anything else

Generative AI can be thought of as a very, very smart parrot.

-- Alexander Solod

How AI is Changing, and Can Change, Education

Generative Video

https://www.washingtonpost.com/technology/interactive/2024/ai-video-sora-openai-flaws/

Some ways AI can be used in gifted education:

- Productivity tool
- Advanced information resource
- Research tool
- Edit feedback
- Differentiated content
- Personalized learning
- Engaging conversations
- Coding assistant

Don’t forget to…

- Discuss responsible use
- Avoid sharing personal data
- Learn how to effectively ask questions
- Caution that garbage in results in garbage out and many of the ills of society aren’t censored
- Encourage critical thinking about AI output

BIG 3

magicschool.ai
canva.com
chatgpt.com

edcraft.tech Survey

Teaching Assistants

- MagicSchool AI 29%
- EduGPT 13%
- Almanack 9%
- Curipod 9%
- Eduaide 9%

Content Writing

- ChatGPT 71%
- Bard 9%
- Copy.ai 5%

Talking Heads

- D-ID 31%
- Synthesia 31%
- HeyGen 16%
- Fiki 11%

Presentations

- Gamma 27%
- MagicSlides 13%
- Tome 12%
- Slides AI 12%

Image Generation

- Canva AI 38%
- MidJourney 16%
- Bing Image Creator 11%

Video Editing

- Lumen5 29%
- Descript 23%
- Pictory 19%
- Fiki 13%
- Runaway.ml 10%

Chatbot

- ChatGPT 80%
- Bing Chat 8%
- Bard 6%
- Claude 2%

Image Editing

- Clipdrop 20%
- Pixelcut 18%
- Remove.bg 16%
- Cleanup.pictures 13%

Research

- ChatPDF 39%
- Bing Chat 21%
- HumataAI 16%
- Research Rabbit 10%
- Elicit 8%

Course Creation

- CourseAI 42%
- Coursebox 8%
- Lingio 8%
- Edapp 8%
- Mindsmith 8%
- Learnworlds 7%

Animated Images

- Animated Drawings 30%
- Scribble Diffusion 28%
- CapCut 19%
- Pika.art 13%

Audio

- Adobe Podcast Enhance 35%
- Audiocraft 20%
- Cleanvoice 20%

Language Learning

- Duolingo MAX 36%
- Twee 33%
- TeachPlanet 7%
- TalkPal 6%

Video Generation

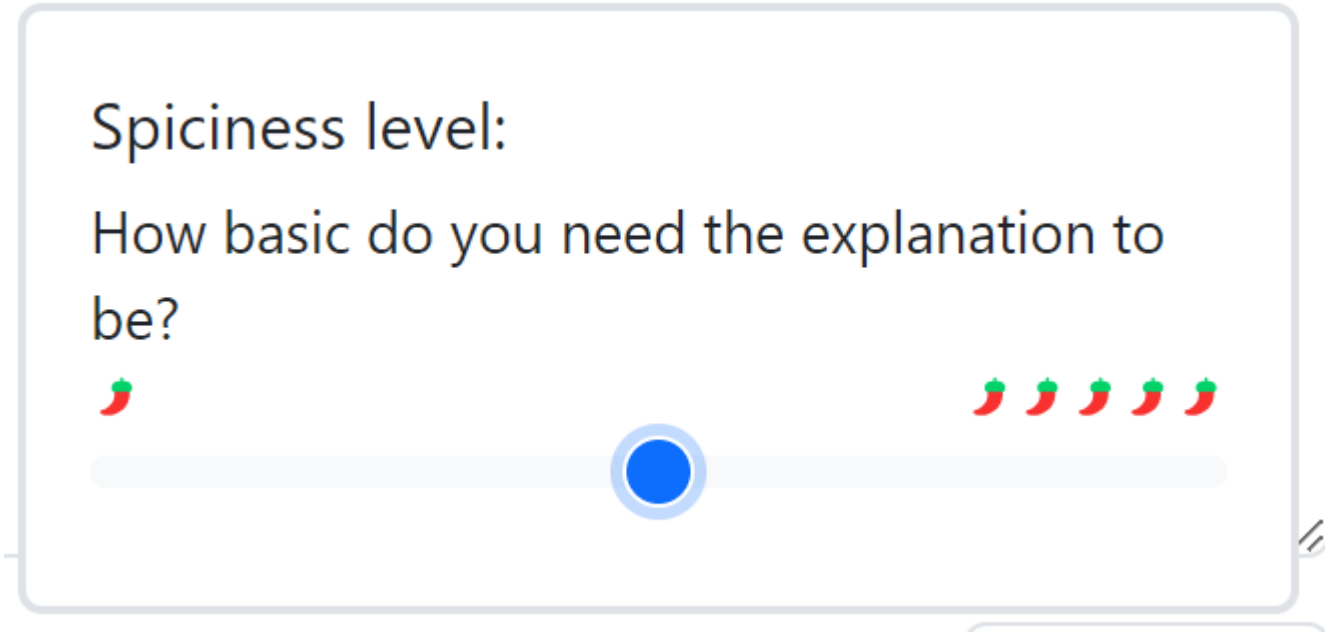
- Pictory 25%
- D-ID 21%
- DeepBrain AI 14%
- VyondGO 14%

Text-to-Speech

- Speechify 40%
- Elevenlabs IO 28%
- Synthesis IO 11%
- Listnr 11%

goblin.tools

Magic ToDo
Formalizer
Judge
Professor
Estimator
Compiler
Chef



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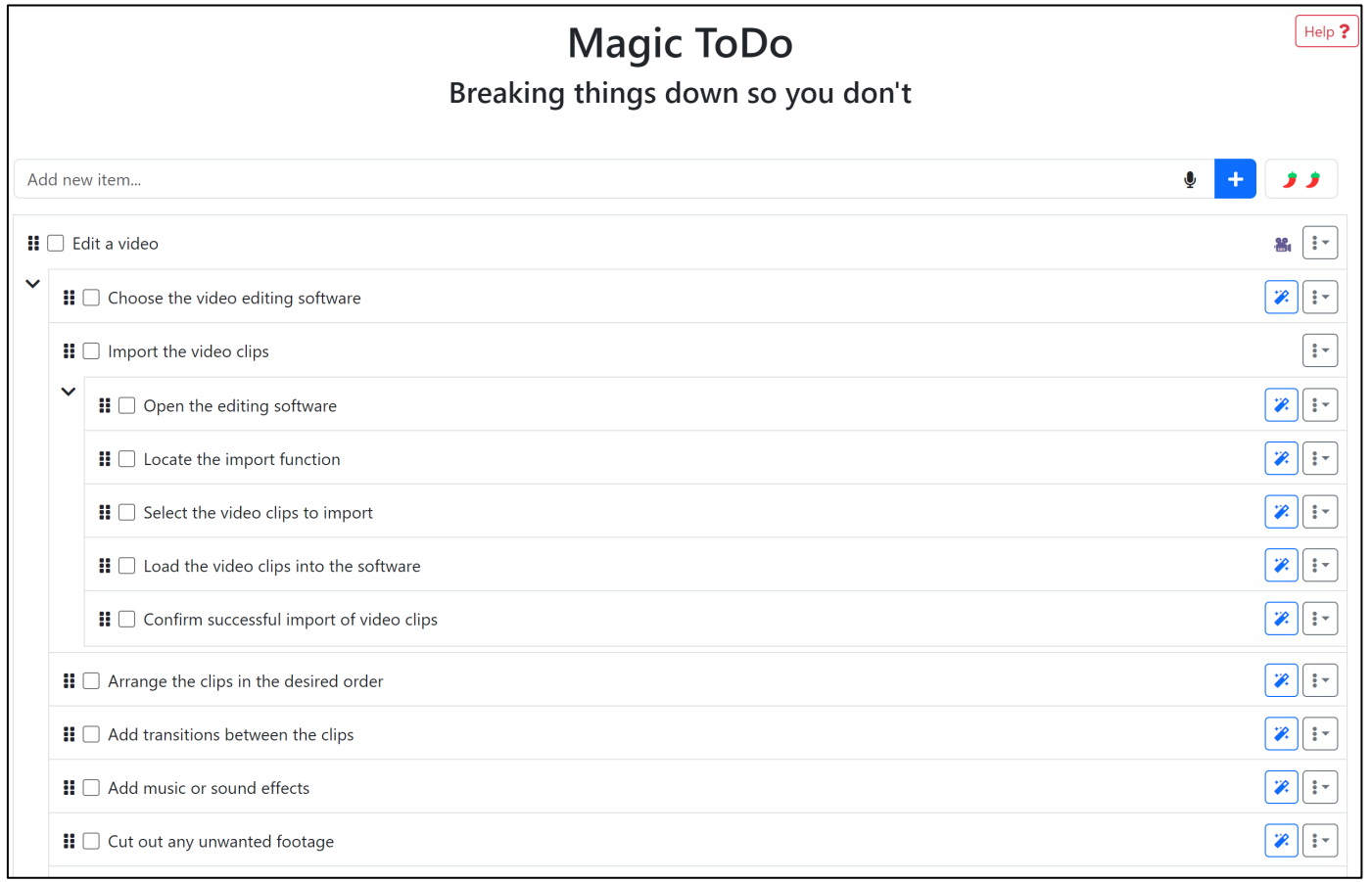
- Chef



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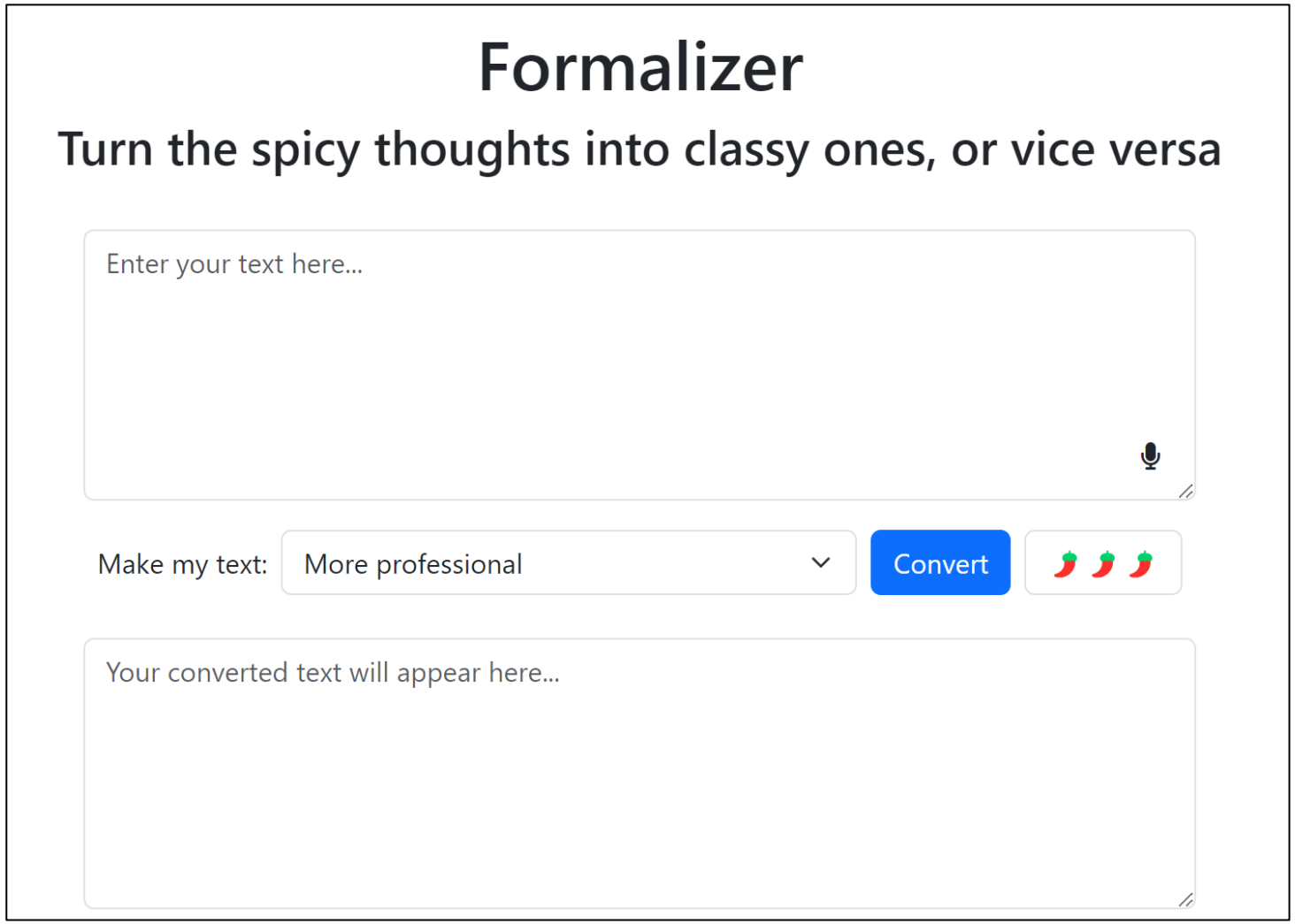

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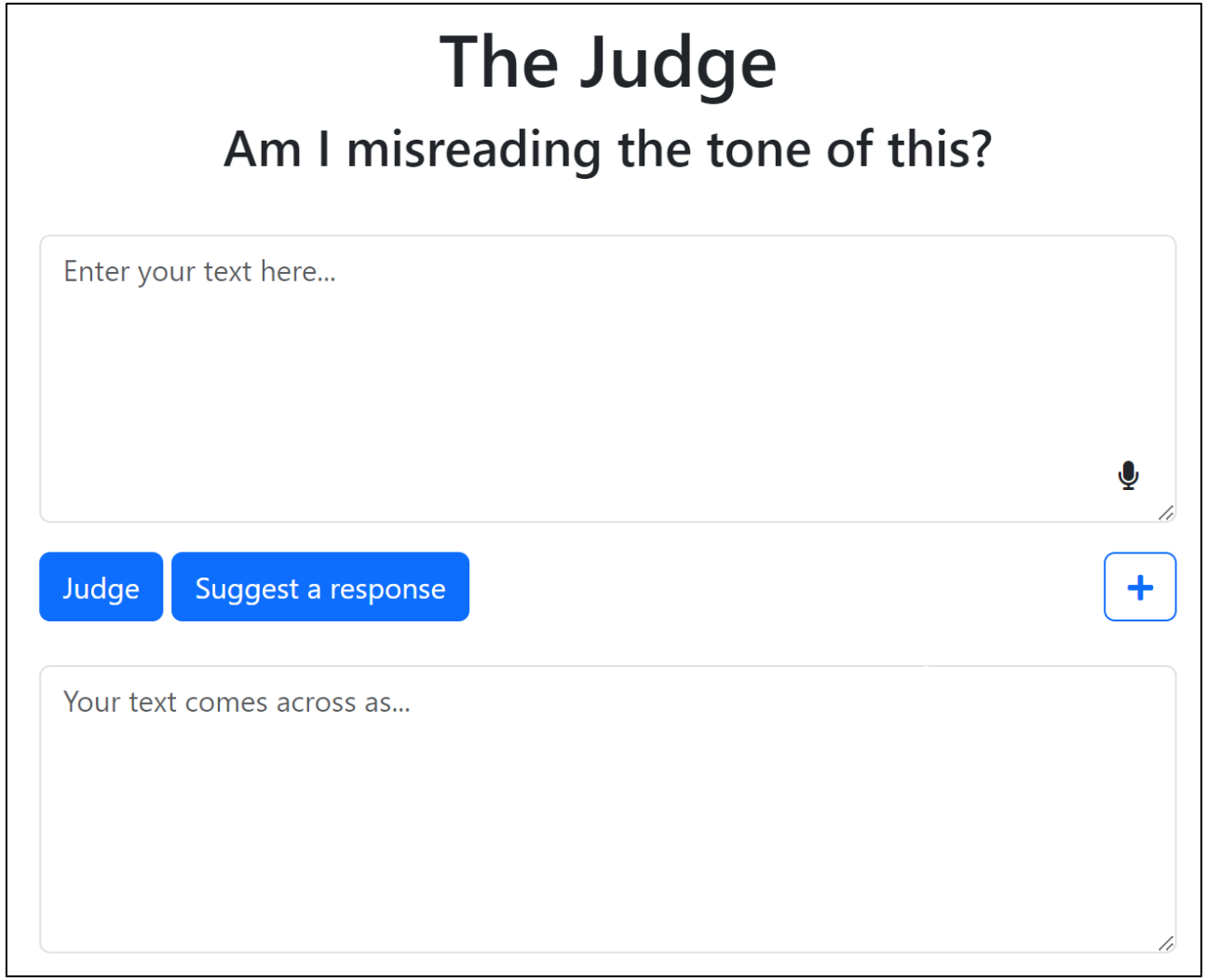

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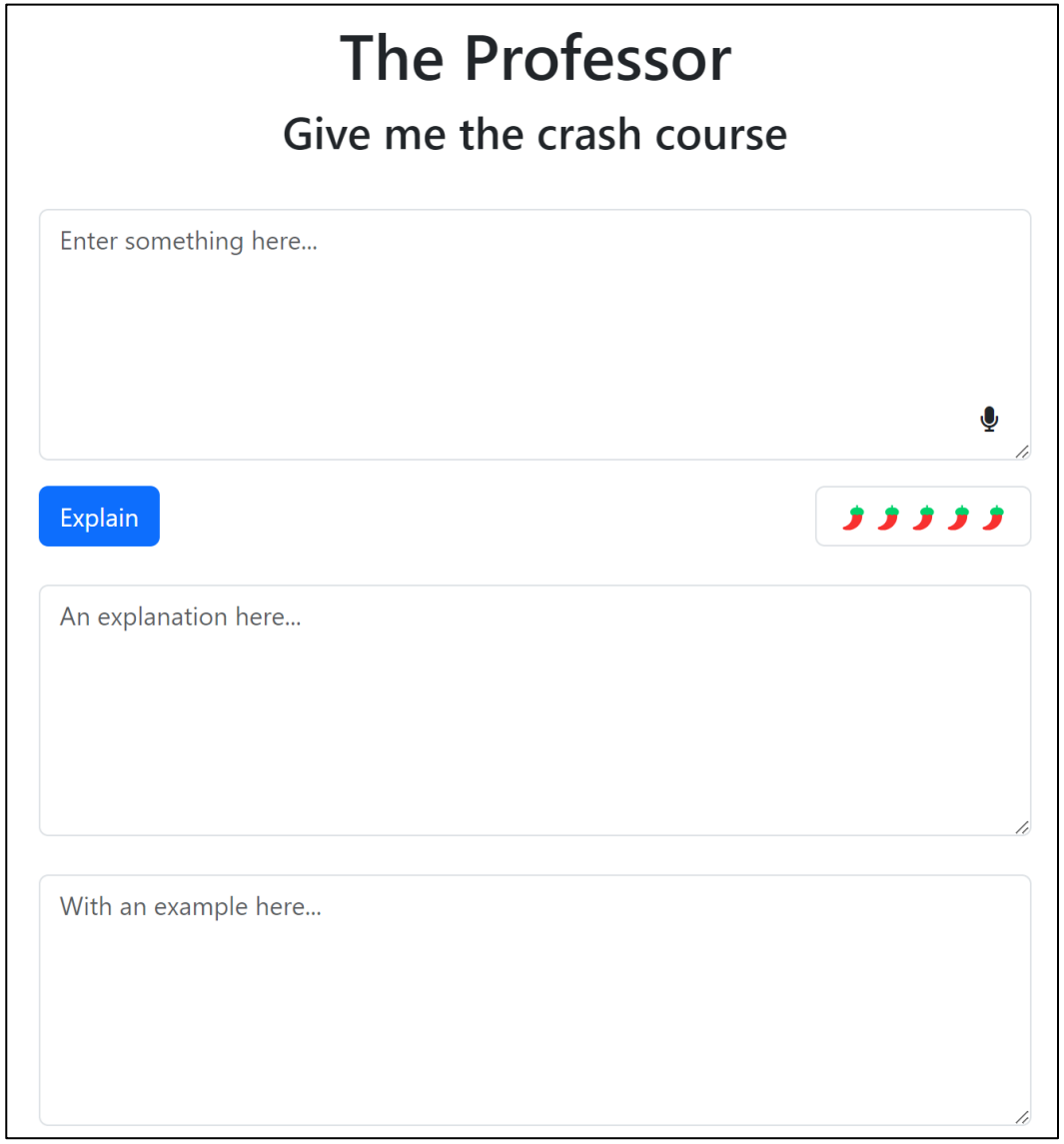

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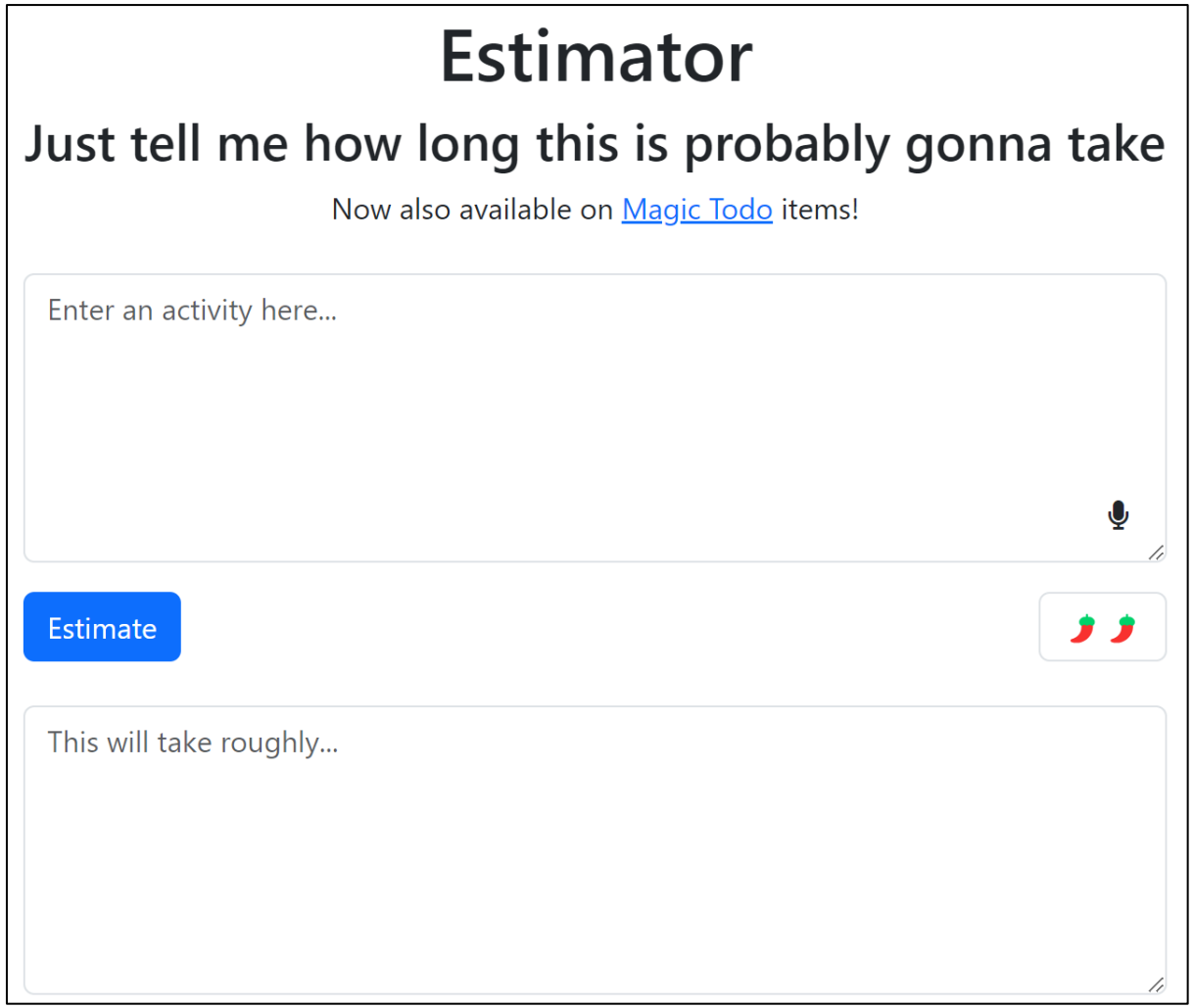

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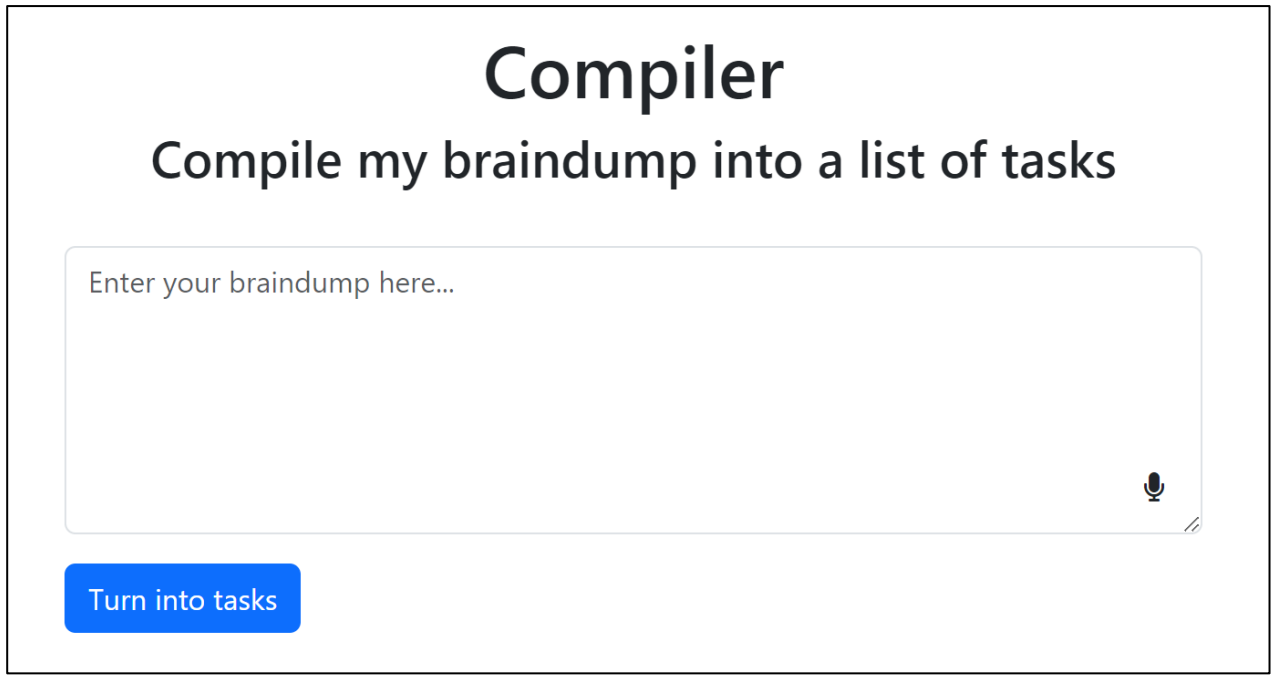

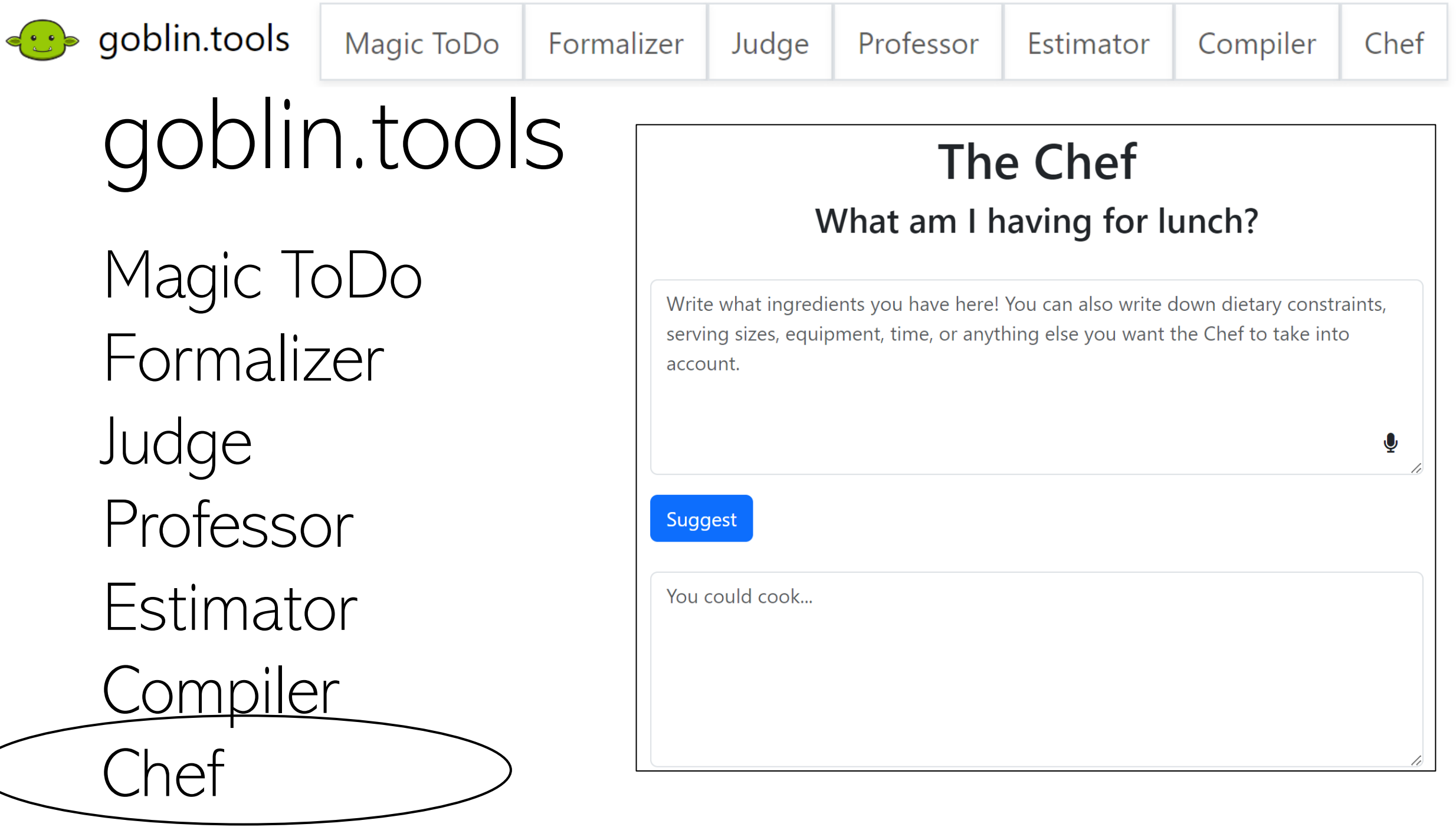

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Chef

The Chef

What am I having for lunch?

Write what ingredients you have here! You can also write down dietary constraints, serving sizes, equipment, time, or anything else you want the Chef to take into account.

Suggest

You could cook...

perplexity.ai

How do black holes work

Sources

Black holes: Everything you need to know -...
space · 1

Black Holes - NASA Science
science.nasa · 2

How Black Holes Work - Science | HowStuffWorks
science.howstuff... · 3

View 2 more

Answer

Black holes are incredibly dense regions of space where gravity is so strong that nothing, not even light, can escape once it passes the event horizon [1][2]. Here's how they work:

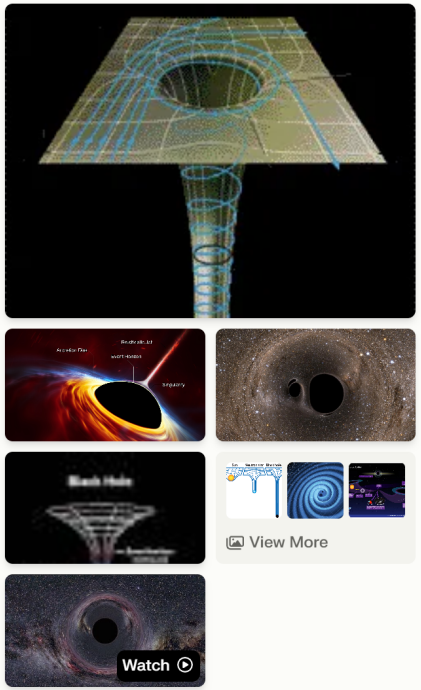
1. Formation:
   Black holes typically form when massive stars die and collapse under their own gravity [1]. The star's core becomes compressed into an incredibly dense point called a singularity [5].
2. Structure:

- Singularity: The center of the black hole with infinite density and zero volume [5].
- Event horizon: The boundary beyond which nothing can escape the black hole's gravitational pull [2][4].

3. Gravity and spacetime:
   Black holes warp spacetime around them due to their extreme density [5]. This warping is what creates the intense gravitational effects associated with black holes.
4. Growth:
   Black holes can grow by accreting nearby matter pulled in by their immense gravity [1]. They can also merge with other black holes, increasing in size and mass.
5. Detection:

Ask follow-up Pro

- Studying the orbits of nearby stars



Search Videos

Generate Image

teacherserver.com

Lesson Plan Generator
Generate daily, weekly, and unit lesson plans aligned with curriculum goals.

K-12 Curriculum Quiz Maker
Design quizzes that align with the K-12 curriculum and learning objectives.

Assignment Feedback
Submit your assignment along with the rubric to receive feedback.

Mistake-Based Assignment Creator
Generate assignments with intentional errors for students to identify and correct.

Text Proofreader
Correct grammar, spelling, punctuation, and add clarity to any text.

Extracurricular Activity
Propose non-academic activities to foster holistic student development.

Science Experiment Generator
Create creative and safe science experiments for the classroom.

Lexile Score Adjuster
Generate a similar text at a higher or lower Lexile score.

Text Translator
Take any text and translate it into any language instantly.

5E Model Lesson Plan Generator
Create daily, weekly, and unit 5e model lesson plans aligned with goals.

Worksheet Generator
Generate a worksheet for your lessons on any topic and grade level.

Lesson Style Assessment
Assess students' learning styles and create tailored support strategies.

Vocabulary Builder
Generate exercises & activities to expand students' vocabulary.

Phonics & Reading Comprehension Coach
Create phonics exercises & reading tasks for specific grades.

Cultural Awareness Activity Planner
Develop cultural awareness activities to promote understanding.

STEM Project Designer
Generate ideas & plans for STEM projects to guide student inquiry.

Generate a Classroom Climate Survey
Design a classroom climate survey about students' perceptions.

Daily Warm-Up Activity Generator
Create daily warm-up activities reviewing previous material.

Critical Thinking Exercise Generator
Design critical thinking exercises that challenge students.

Formative Assessment Generator
Create various formative assessments to monitor understanding.

Group Work Idea Generator
Create group work activities based on grade level and subject.

Essay Evaluator
Critically assess student essays, highlighting strengths and areas for improvement.

Text Summarizer
Condense lengthy texts into concise, informative summaries.

Rubric Generator
Design clear and structured grading criteria for assignments.

Student Behavior Analysis
Evaluate student behaviors to provide insights into classroom dynamics.

FTCE Question Generator
Tailor practice quizzes to prepare for the Florida Teacher Certification.

SAT Exam Question Generator
Provide customized quizzes to enhance SAT readiness.

ACT Exam Question Generator
Craft practice questions for the ACT exam.

TOEFL Exam Question Generator
Generate targeted quizzes for TOEFL preparation.

FELE Question Generator
Tailor practice quizzes for the Florida Educational Leadership Examinations.

Classroom Case Generator
Provide detailed classroom case studies to simulate challenges.

Classroom Case Solver
Users contribute classroom dilemmas while the AI provides solutions.

Professional Development Plan
Roadmap for educators to enhance their skills and competencies.

Teacher CV Checker
Review and provide feedback on educators' CVs.

Teacher Cover Letter
Guide educators in crafting compelling cover letters.

Teaching Job Interview
Preparation tool with insights and practice questions for teaching job interviews.

gamma.app

1 Introduction to...

2 Geography and...

3 Climate and...

4 Population and...

5 Economy and Maj...

6 Wildlife and...

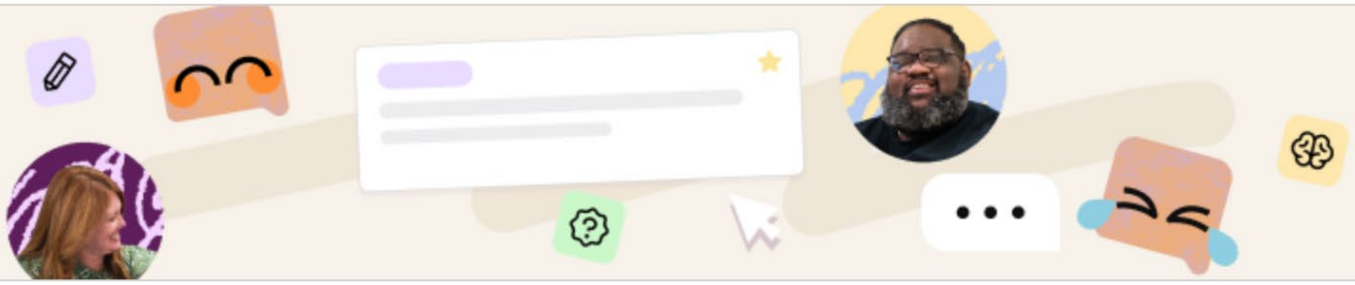
7 Native American...

8 Montana's Outdo...

khanmigo.ai

Khanmigo Tools

Free AI powered tools designed to save you time and improve instruction!



All | Differentiate | Create | Plan | Support | Learn

Search

Chunk Text
Break complex texts into manageable sections for easier student comprehension.

Class Newsletter
Produce engaging newsletters to keep parents informed about class activities.

Class Snapshot
Review your students' performance and trends.

Clear Directions
Generate concise, easy-to-follow instructions for assignments and activities.

Discussion Prompts
Craft engaging prompts to stimulate meaningful classroom discussions.

Exit Ticket
Create quick end-of-lesson assessments to check student understanding.

Fun Class Summary Poem
Transform memorable class moments into a creative poetic recap.

IEP Assistant
Streamline the creation of Individualized Education Plans.

Informational Text
Create informational text for a variety of topics.