

# SUMMER CONNECTIONS

Maximizing Scholar Learning and Engagement

Thursday, February 6 | 6-7:30 pm



**FEDERAL WAY**  
PUBLIC SCHOOLS



# Colleague AI's Tech Set Up

**1. Login** Colleague AI using the following link or type in the web browser Colleague.ai  
<https://www.colleague.ai/>

**2. If you do not have an account yet, please register for free** following this [step-by-step instruction](#):  
Please use your district/education organization email.

If you are not employed in any education organizations, please use this link:  
<https://platform.colleague.ai/invitation?r=17de0109>

**3. Access Today's slidedeck** here:  
<https://tinyurl.com/23sjt7j5>

Or Scan QR code





## Colleague AI Empowers Educators and Personalizes Learning for All Learners

Colleague AI is an Educational Platform where our AI assistants act as knowledgeable colleagues for educators and friendly buddies for learners. We aim to develop technologies that serve as a “third agent” in the classroom, fostering a dynamic, personalized, and collaborative educational experience for everyone in school or after school.



UNIVERSITY of  
WASHINGTON

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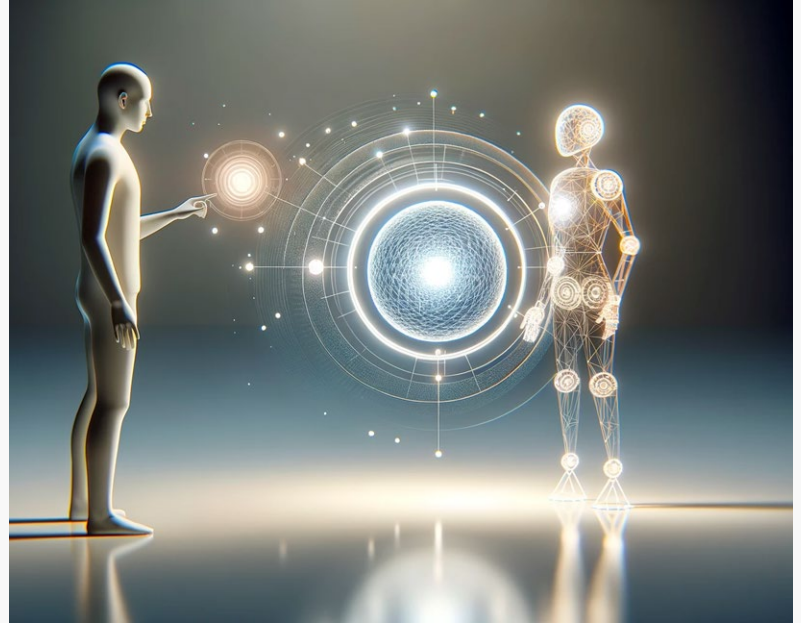
# | What is AI?

## Understanding AI Simply

Artificial Intelligence (AI) is technology that helps computers think and learn in ways similar to humans.

At its core, AI uses math and computer code to:

- Find patterns in large amounts of information
- Learn from new information
- Make decision, predictions or suggestions.





# Balanced Understanding about AI

- We need to move beyond hype and fear.
- AI is a powerful tool, but not magic, and certainly cannot replace human intelligence.
- AI use should focus on augmenting human capabilities.
- AI has been rapidly penetrating our lives, which highlights the importance for us to prepare our students to develop a balanced understanding about AI.



What are the latest trends in AI in Education?

How can AI Transform Students' Learning?



# How can AI Transform Students' Learning?

The “Third Agent”  
in classroom,  
interacting with  
teachers and  
students:


- **Dynamic,  
engaging  
content**
- **Personalization**
- **Collaborative  
learning**

(by Dr. Min Sun)



*Note.* Image generated by Colleague AI

# Example 1: Dynamic Generation of Content



multiply using the associative property of operation

Paragraph

B I U S </> Tt A

≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡

## Exploring the Magic of Multiplication: Unraveling the Associative Property

### Learning Objectives

By the end of this lesson, students will be able to:

1. Review and demonstrate proficiency in single-digit multiplication (Understanding).
2. Explain the associative property of multiplication using mathematical language and visual representations (Understanding).
3. Apply the associative property to solve multi-factor multiplication problems efficiently (Applying).
4. Analyze and solve word problems involving the associative property of multiplication (Analyzing).
5. Create their own examples demonstrating the associative property and explain their reasoning to peers (Creating).

### Materials

1. Whiteboard and markers
2. Student worksheets with multiplication problems and word problems
3. Colored index cards (three different colors)

That's a great approach, Charlie! But what if I told you there's another way to solve this problem? What if we grouped the numbers differently?

Charlie AI

Really? How would that work?

Claire AI

Well, instead of multiplying 2 and 3 first, we could multiply 3 and 4 first. So it would look like this:  $2 \times (3 \times 4) = 2 \times 12 = 24$ . Notice how we got the same answer?

Charlie AI

Wow, that's interesting! But why does that work? And why is it important?

Claire AI

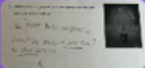
That's the magic of the associative property, Charlie! It

00:00 / 07:26



# Example 2: Personalized Learning

A parent (Dr. Sun here) works with AI to explain to her 3rd grader about how a light bulb completes a circuit.



Observe the image of a light bulb. Explain how the light bulb completes a circuit.

Claire AI

Show chain of thought

I see you're on the right track! You've correctly identified that the light bulb uses energy in the circuit. That's to understand how the light bulb actually completes the circuit.

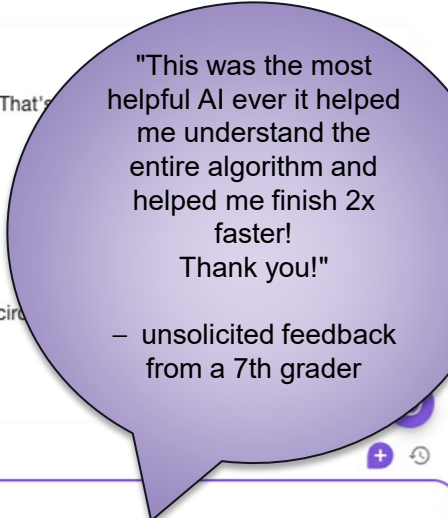
Take a closer look at the image of the light bulb. Can you describe what you see inside the bulb?

Now, think about these questions:

1. What material do you think the thin wire inside the bulb is made of?
2. How does this wire connect to the base of the bulb?
3. When we screw a light bulb into a socket, what parts of the bulb make contact with the socket?

Considering these points, how do you think electricity might flow through the bulb? Remember, for a circuit to flow from one point back to another.

Show reflection



"This was the most helpful AI ever it helped me understand the entire algorithm and helped me finish 2x faster!"  
Thank you!"

– unsolicited feedback from a 7th grader

Press "Enter" to continue...

# Example 3: Detailed, Individualized

## Feedback

**Two Step Word Problems**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**DIRECTIONS:** Solve the following problems Show how you calculated the answer.

5. Farmer Sam has an apple tree with 148 apples. He collects them all to sell in bags of 10. If 18 apples are rotten and can't be sold, how many bags of apples will there be for sale altogether?

$$\begin{array}{r} 148 \\ -18 \\ \hline 130 \\ \div 10 \\ \hline 13 \end{array}$$

Answer: 13

6. Matt was given \$50 for his birthday. If he buys 4 new baseball caps each costing \$6, how much does Matt have left of his \$50?

$$4 \times 6 = 24$$

$$\begin{array}{r} 50 \\ -24 \\ \hline 26 \end{array}$$

Answer: 26

7. A basketball team won a game by 22 points and then beat the same team in a re-match. The total score of the winning team across both games was 117 points. How many points did the losing team score?

$$22 + 12 = 36$$

Answer: 36

8. Elena is swimming in a pool that is 40 meters in length. She has swum 400 meters. How many lengths will Elena swim altogether?

$$\begin{array}{r} 400 \\ +400 \\ \hline 800 \end{array}$$

Answer: 20

Copyright: 2023 @ Kladenegan - Jumping Elephant Math

**AI Assistant**  
Based on the image provided, I will grade the student's work on the "Two Step Word Problems" worksheet.

**Student 1**

| Item                  | Standard | Score | Justification  | Strengths   | Areas for Improvement                                      |
|-----------------------|----------|-------|--|---|--|
| 5. Farmer Sam's apple | 3.OA.D.8 | 83    | Student correctly solved the two-step problem, showing work. | - Accurate calculations- Clear presentation of work- Correct final answer | - Could show equation with a variable for unknown quantity |

“Super exciting data point! Halfway through the year, we take the iReady diagnostic. The goal is for students to be at 50% growth towards their yearly growth goal. Last year, my students made an average of 72% growth in January. This year, students have made an average of 108% growth in January. I attribute a lot of this towards Colleague AI, both teacher and student facing.

My student who uses the student-facing version the most has made 315% growth as of halfway through the school year, growing from 4th grade to 6th grade. For the last 2 years, he made 0% growth.”

— unsolicited feedback from a 7th grade teacher

thought

ers

Continue to develop skills in more complex multi-step problems

Overall, the student shows a very good grasp of solving two-step word problems. To further enhance their skills, they could focus on representing problems algebraically and ensuring they include units in their final answers. Keep up the great work!

# Hand on Session

1. Warm-up (1 minute)
2. Zero-shot prompting strategy: (20 minutes)
3. Evaluate how your prompt works (5 minutes)
4. Closure (2 minutes)

# Warm - up Task

- Think of one task you need to do to *help your children's learning*

Try to focus on things that revolve around:

Help with homework

Make a schedule

Communication with the teacher



# Zero-shot Prompting

1. Overview
2. Use case modeling



# Zero-Shot Prompting: Overview

Zero-shot prompting is the simplest type of prompt. It offers just instruction and context. To write effective prompt, you may want to:

1. Give a role to your AI,
2. Offer instructions to the task you want the AI to perform, even with goals and contexts.
3. Specify the output.

## 1. Give a role to your AI:

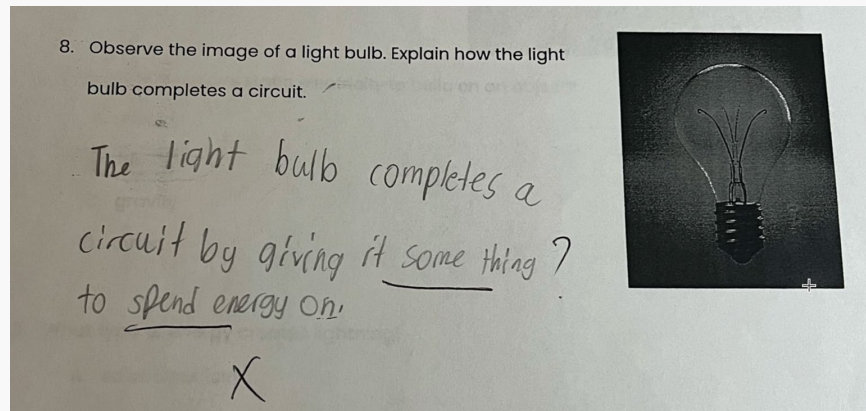
*You are an expert 3<sup>rd</sup> grade teacher, skilled in explaining complex science and engineering concept in easy-to-understand language.*

## 2. Give its tasks and contexts:

*Your task is to observe the attached image of a light bulb, then guide a third grader to explore the concept of how the light bulb completes a circuit in three scaffolded steps.*

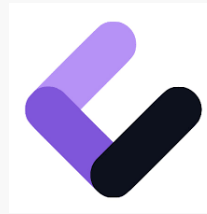
## 3. Specify Output.

*Use funny, engaging tone whenever appropriate. Use third grader's friendly language.*





# Copy and Paste into Colleague



You are an expert 3<sup>rd</sup> grade teacher, skilled in explaining complex science and engineering concept in easy-to-understand language.

Your task is to [observe the attached image of a light bulb, then] guide a third grader to explore the concept of how the light bulb completes a circuit in three scaffolded steps.

Use funny, engaging tone whenever appropriate. Use third grader's friendly language.

# Offer Feedback on Students' Work

Prompt with CharlieAI / ClaireAI

Based on your observation of student's own response in the attached image, could you guide the student to develop a full understanding of the light bulb concept?

ClaireAI's Response

Claire AI

Show chain of thought

Hey there, science explorer! 🌟 I see you're thinking about energy and light bulbs - that's awesome! Let's build on your ideas together!

## What You Got Right! 🌟

You're absolutely correct that energy is important! You wrote about "spending energy" - that's a great start! Energy is definitely a key part of how light bulbs work.

## Let's Complete the Picture! 💡

Remember our light bulb needs three things to complete a circuit:

### 1. A Path In

- Electricity needs a way to enter the bulb
- It's like giving the bulb its "food" to make light

### 2. Something to Do

- You were right about energy! The bulb uses electrical energy to:
  - Heat up the tiny wire inside
  - Turn that energy into light and heat
  - This is what you were thinking about with "spending energy" - good job!

### 3. A Path Out

- This is the missing piece in your answer
- Electricity needs to flow THROUGH the bulb and back out
- It's like a complete loop, just like a circle

## Try This Fun Example! 🎮

Think of it like a video game:

- Electricity is like a player in a game
- It needs a way to start (path in)
- Something fun to do (make light)
- And a way to finish the level (path out)

Would you like to try explaining it again? Here's a starter: "A light bulb completes a circuit by letting electricity flow in through one part, using the energy to make light, and then..." (Can you finish the sentence?)

Remember: You had a great start with understanding energy - now you just need to add the idea of a complete path! 🌈

Show reflection

Jan 23, 2025 11:29 AM

🔄

📁

🗑️

👤

# Accessibility Support

- Multimodal (voice, texts, images, audios), including voice to text, text to voice.

50 different languages;

Flexible content management (word, PDF, image, slides, spreadsheet via google or Microsoft).

# ! Your Turn!

Choose one of the following stations:

*Be thinking...  
Did each prompt work?  
If not, how did you fix  
it?*



## **Main room: Let me explore**

- If you want to play with Colleague AI by yourself and learn through doing



## **Room 1: Help me!**

- If you don't feel comfortable with AI and want more of a scaffolded application time

## **Room 2: I learn through socialization**



- If you want to socialize, meet new colleagues, and co-create, revise, and troubleshoot prompts together



## Be a Critical Consumer of AI: Evaluate How Your Prompt Works

| Criteria          | Description   | Fixing Strategies   |
|-------------------|---|---|
| <b>Accuracy</b>   | Factually correct and contains no error                                       | <ol style="list-style-type: none"><li>1. Cross-reference with reliable sources</li><li>2. Ask AI to provide citations and url links so that you can verify</li><li>3. Look for gaps in its logic. Step-by-step prompting is helpful. Ask AI to break down the steps for you.</li></ol>                        |
| <b>Relevance</b>  | Fully address your original question or request                               | <ol style="list-style-type: none"><li>1. You need to be clear and specific</li><li>2. Rephrase your questions to be more targeted</li></ol>   |
| <b>Usefulness</b> | The information is presented in a way that is easily understood or actionable | <ol style="list-style-type: none"><li>1. You can experiment with different output formats;</li><li>2. Define AI's role and offer context;</li><li>3. Synthesize key insights if the AI responses are too long;</li><li>4. Ask AI to translate the response into practical instructional strategies.</li></ol> |



## Thank You So Much!

1. Colleague AI's [YouTube channel](#) for more learning resources.  
[Video recording](#) for prompting strategies.
2. Please reach out to us:  
Min: [misun@uw.edu](mailto:misun@uw.edu)  
or [info@colleague.ai](mailto:info@colleague.ai)
3. Join Colleague AI's [Online Community](#)
4. Connect on social media



# Feedback Survey

**Please help us improve by sharing your feedback about today's event through a 3-minute survey:**

*Encuesta posterior al evento: !Ayúdenos a mejorar!*

*Sau buổi sự kiện: Hãy giúp chúng tôi cải thiện!*

Опрос мнения по окончании мероприятия:  
Помогите нам учесть недочёты!

پست-نظرسنجی : رویداد به ما کمک می کند بهبود  
یابیم!



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**[www.fwps.org/FamilyAcademySurvey](http://www.fwps.org/FamilyAcademySurvey)**