

Part  
**1**

# Essentials

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# Chapter 1

## Getting to Know AI

### CHAPTER CHALLENGE

- Try on at least one AI tool and reflect on your emotional response to change, specifically related to the adoption of AI.

Learning any new technology often comes with some initial challenges, and getting started with artificial intelligence is no different. While the learning curve may appear steep, and the tools intimidating at first, we have found that exploring this technology and these platforms with educators has brought a sense of excitement and newfound energy to those who jump in and try it out. The technology is ever-changing, and its capabilities seem limitless—which means that no manual or set of directions will beat exploring and discovering on your own. The goal of this chapter is to help you do just that. See this as a starting point and a launchpad for all the possibilities to come.



### Stop and Jot

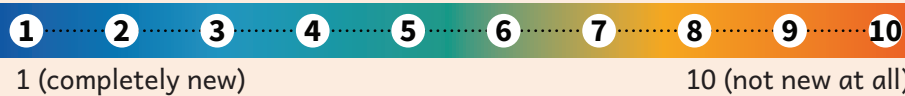
Where are you in the AI journey?

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Is AI new to you?



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What aspects of AI’s potential for assisting educators intrigues you the most?

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What concerns or reservations do you have regarding the use of AI in supporting educators?

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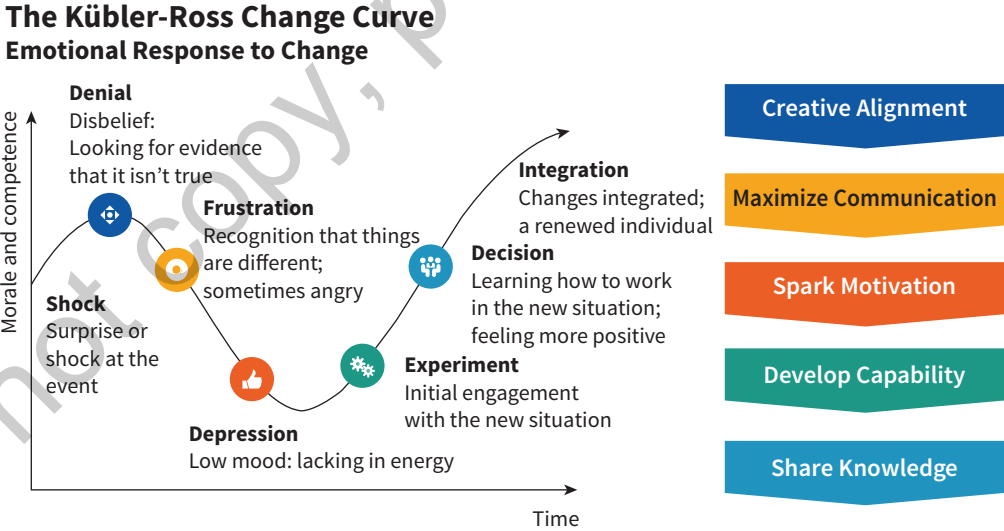
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Of course, as you get to know this technology while engaging in this playbook or as you continue to explore AI on your own, you’ll likely experience a range of emotions and feelings toward it. We believe the Kübler-Ross Change Curve, first created in the late 1960s to help capture the stages associated with change, accurately captures the trajectory of what educators have felt toward AI when working with it for the first time (see Figure 3).


**Figure 3 • The Kübler-Ross Change Curve**



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Each of these stages highlight valid and appropriate emotions to have as you confront the change. We encourage you to remain open to possibilities, to let the suggestions in this

playbook spark your own imagination and creativity, and to embrace a “think outside the box” mentality. Try to set aside thoughts about how you have always done things and any self-imposed roadblocks as to why it might not work. Know that even as you are reading, the technology is getting better with regular software updates, the introduction of new features, and improvements that are making platforms more accessible to users. We can only begin to imagine the capabilities of how AI can and will support K–12 educators worldwide.

 **Stop and Jot**

What stage in the change model are you experiencing?

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Where would you like to be?

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How might you get there?

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## Task Takeover

### Exploring Possibilities

Let’s try a task with AI. Visit the ChatGPT website <https://chat.openai.com>. Let’s imagine that you’ve been thinking of alternative ways to take attendance, but you don’t want to use higher-end technology tools in your classroom to do so. Type this prompt in the message box: *Nontechnological methods that teachers can use to take attendance.*

Look at the ideas that are generated. Some are likely known to you such as having students submit their assignments or checking their name on a list at the door. But are there any that you might use, even episodically, to take attendance differently? In this case, AI generated ideas. In the future, this feature will focus on the ways that AI can do a task for you. In terms of attendance, facial recognition is coming, and students will probably check in with smartphones in the near future. In addition, voice recognition and biometric scanning may soon replace the systems we use to take attendance.

Artificial intelligence itself refers to the ability of machines to do human-like tasks and engage in human-like conversation. Some of the most popular sites are not specific to education, but they can still help with teacher tasks if you use the right prompts. These sites, referred to as large language models (LLM), have access to a deep well of data (as vast as the internet itself) to help them engage in tasks prompted by the user. Though the sky's the limit on what they can offer, they require the user to practice a certain level of thinking, creativity, and prompt generation in order for the information produced to be relevant and effective.

Other sites are designed for a specific purpose or user. Those sites offer a variety of features, usually called *tools*, that guide users to input certain information needed for the resource the sites will create. There is value in educators exploring a wide variety of sites, knowing that different sites might offer help for different topics. To help you get started, we will explore specific sites in the next few sections.

## Self-Assessment

The following list of potential AI uses will expand over the course of this playbook. For now, use the scale to identify some of the ways that AI may be able to help you (blue is good or regularly; orange is the opposite). What areas do you want to strengthen?

Menu of Potential Uses of AI	
Writing grade-level examples	
Planning lessons and units	
Creating student feedback	
Translating texts and directions	
Creating math word problems and rich math tasks	
Adding visuals to text	
Making lessons into games	
Changing readability levels	

## ARTIFICIAL INTELLIGENCE SITES FOR EDUCATION

In the sections that follow, you will find we have mentioned some AI sites we found particularly helpful at the time of publication. If you haven't visited the sites before, you will need to create an account to start access. Many of the sites suggested have free

access for initial use. Keep in mind that the list of available AI sites is rapidly growing and changing. We hope that our discussion of the general types of sites and the function or use of each will help you gain clarity about the AI process and its potential regardless of your ability to connect with the specific site itself.

## LARGE LANGUAGE MODEL (LLM) ARTIFICIAL INTELLIGENCE

As we noted earlier, LLM sites are the most widely used AI tools that allow users to shape the direction of the interaction. When you first engage with their open-ended features, the process may remind you of starting a Google search. As with Google, you will input a question or request (referred to as a *prompt*) and receive a response. However, unlike Google, these models don't present a list of websites for you to independently explore. Instead, they offer an answer or a suggestion, initiating a response for you that is similar to a human interaction or conversation.

When you prompt the chatbot, you can continue a back-and-forth discussion (which we will refer to throughout this playbook as a *back-and-forth*) to seek additional information, to gain clarification, or even to debate its replies, much as you would when having a live conversation with a peer or colleague. LLM platforms, also sometimes referred to as *generative AI tools*, use natural language processing to understand and generate human-like conversation (Lo, 2023). Though AI pulls its information from the internet, it is also able to generate and create in ways that go well beyond the current capabilities of a search engine.

### Try It Out!

#### Search Engines vs. Large Language Models (LLMs)

Step 1: Decide on a topic you want to research.

Step 2: Visit a search engine like Google.com and enter a request in the search field.

Consider the following questions:

- What responses does it give?
- Where is it pulling information from?
- Did it give you the information you needed?
- What else would you want to know?

Step 3: Visit a large language model (LLM) AI site like ChatGPT (chat.openai.com), and enter the same request. Consider the following questions:

- How is a chatbot response different from the search engine response?
- Does the reply match what you were looking for?
- If this reply was shared by a human, what would you say back?

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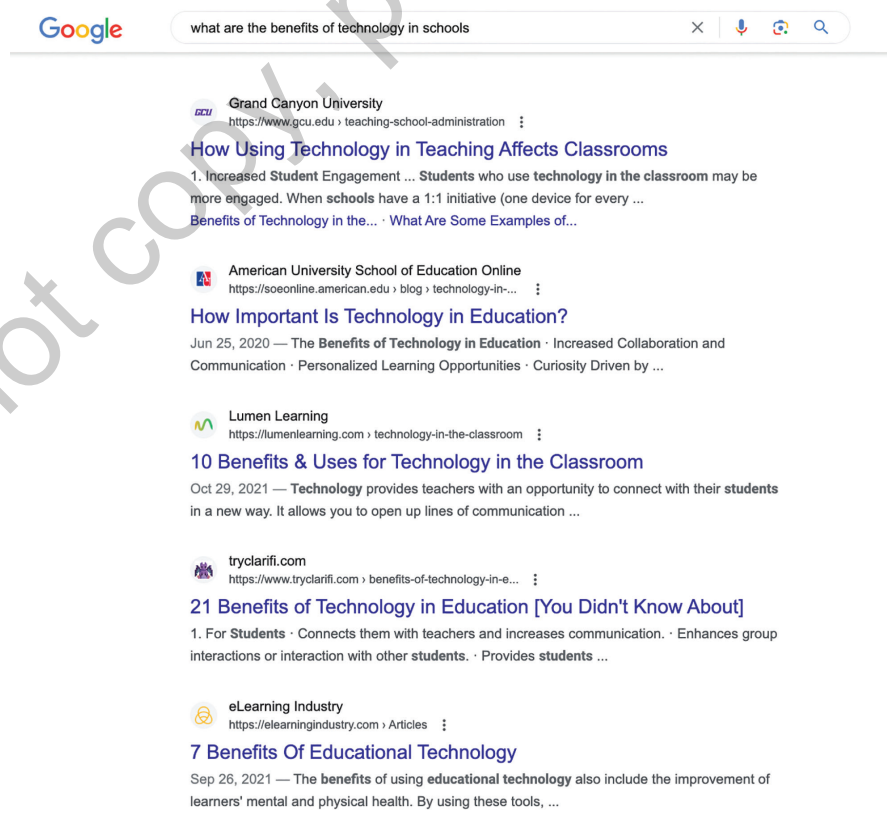
Step 4: Engage in some dialogue with the LLM site. We recommend at least four or five interactions to get a sense of what it can offer. Consider the following replies:

- Explain more.
- I don't understand \_\_\_\_\_. Give me an example.
- What would this mean for \_\_\_\_\_?
- *What else do I need to know about this topic?*

Step 5: Compare and contrast the sites. What do you notice about the difference in capabilities of search engines versus artificial intelligence?

Here's our example. We wanted to know about the benefits of technology in the classroom, so we typed "what are the benefits of technology in schools" into Google, which generated a list of about 733,000,000 sites in 0.41 seconds. That's both impressive and overwhelming. Like other search engines, Google uses an algorithm that evaluates several factors to assess the relevance, authority, and user experience of a website; the algorithm then generates the top results (see Figure 4). Our responsibility as users is to filter through the information and make decisions about what is useful. Like our students, we tend to visit only the top few sites to see what they have to offer.

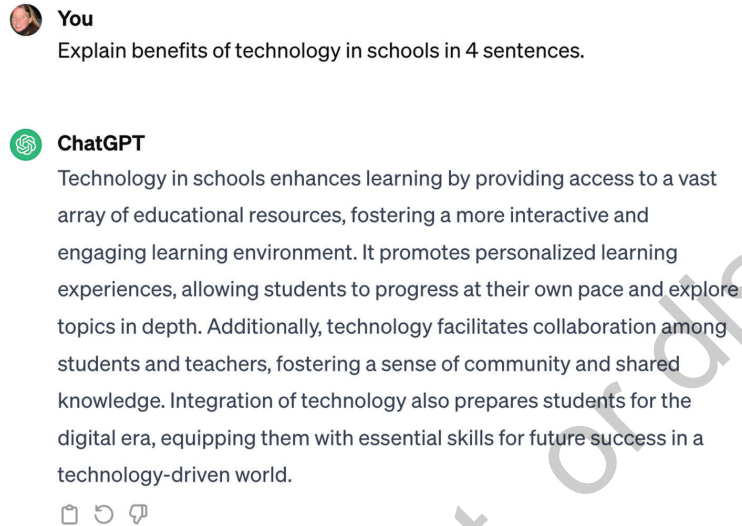
**Figure 4 • Google Search for "What Are the Benefits of Technology in Schools"**





We entered a similar prompt into ChatGPT and obtained much more concise information (see Figure 5).

**Figure 5 • ChatGPT Request for “Explain the Benefits of Technology in Schools in Four Sentences”**



Source: ChatGPT.

The information is summarized for us. It’s organized into blocks of information. It’s understandable and the synthesis is clear. But note that there are no sources cited. This information was gathered from somewhere, but it’s impossible for users to know where. At the time of publication, ChatGPT is only accessing information through 2022. That will change as the technology grows, but from what we know now, AI tools do not always have the most up-to-date information. Consequently, it’s important to note that there are inherent risks with using generative AI, which is why there are policies and procedures being developed to protect intellectual property and users of these systems.

### Ask a Bot

We asked ChatGPT about the risks that come when educators use generative AI. The system not only gave a quick response, but also provided a thorough one: “While Generative AI has the potential to offer valuable tools for educators, there are also several risks and challenges associated with its use. It’s important for educators to be aware of these potential pitfalls to ensure responsible and effective implementation” (OpenAI, 2024). Some of the risks it listed included the following:

- Bias and fairness
- Quality of output

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- Overreliance on technology
- Accessibility
- Privacy and security

ChatGPT went on to explain more about each category.

What we found most interesting was that the technology was not overly complimentary of its capabilities and gave an honest and complete response about how the source itself has limitations. We will address some of these concerns in the chapters that follow; we also encourage you to go to the source itself when you have concerns. Ask it questions like these:

- *What are your limitations with \_\_\_\_\_?*
- *What else should I do to make sure \_\_\_\_\_ is trustworthy?*
- *What are the different perspectives users have about \_\_\_\_\_?*

## TEACHER-FACING ARTIFICIAL INTELLIGENCE

In the spring of 2023, as we introduced teachers to AI's capabilities, specifically the use of LLM platforms, we encountered similar questions and comments from educators: "How do you know what to ask?" and "When I asked \_\_\_\_\_, I did not get what I was looking for." The open models offer many possibilities, and they require the creativity and savviness of the user to provide a prompt that is just right for the query. As we used AI more frequently ourselves, we decided to save prompts that helped us arrive at what we were looking for. By reusing or modifying these prompts, we eliminated the need to reinvent the wheel each time.

As people have started to recognize the possibilities for AI in education, platforms have emerged that streamline the prompt writing process. Sites like MagicSchool.ai, Diffit.ai, and Eduaide.ai were launched at the start of the 2023–2024 school year and have proven useful in helping educators imagine the possibilities of using AI all while reducing the work that goes into open-ended prompt generation. They offer a more structured approach to prompting, giving users specific categories of information to enter such as grade level, standard, assignment, or text. Behind the scenes, these platforms quickly generate a prompt and can output exactly what an educator is looking for. They simplify the process.

Because they are focused on the specific functions, tasks, and needs of educators, teacher-facing artificial intelligence sites are a game changer. It is also important to recognize that teacher-facing sites are rapidly changing. In fact, while exploring one of these sites with a group of Chicago fourth-grade teachers, we saw an update of the site's organization and new tools added. Teachers have also noted that these sites have improved over their short lifespan including additions such as the ability to do the following:

- transfer AI generated content into Google Classroom
- create new and engaging classroom resources like customized *Jeopardy!*
- produce student-facing rubrics specific that seamlessly merge assignments and standards

### Try It Out!

#### Getting to Know Teacher-Facing AI Sites

Step 1: Visit a teacher-facing AI site such as MagicSchool.ai or Eduaide.Ai.

Step 2: Create an account, if needed, and log in.

Step 3: Decide on one tool explore.

Step 3: Input the necessary information into the provided fields.

Step 4: Generate results.

Step 5: Try using the responses and additional features to explore its capabilities beyond the prompt itself.

Step 6: Repeat with another feature.

Step 7: Reflect on the ways that this could reduce some of the time you spend on these tasks.

## STUDENT-FACING ARTIFICIAL INTELLIGENCE

Although the primary audience of this playbook is the teacher, each section features ideas for how educators can teach students to use artificial intelligence in productive and ethical ways. Just as there has been an influx of AI tools specifically dedicated to teaching, there are also AI sites primarily created for the use of the student. Many of these sites allow teachers to create assignments and tasks for students to make the most of the technology.

Though some AI features might be new to students, the use of technology, specifically AI, is not. From a young age, most students have talked to Siri and Alexa, and most are accustomed to letting computers and smartphones help them fix spelling errors, type the right word, and even end a complete thought.

Student-facing sites like Socrat.ai and Brainly.com offer features specific to student learning. Teachers can assign students to engage in a debate with a chatbot on Socrat.ai; they can also assign exam reviews on tutoring-style sites like Brainly.com. In some ways, these sites make learning accessible to students who might be too timid to engage in class discussion or do not have access to a tutor or support system at home when doing homework. The reality is that students will be engaged with AI in their near futures, and many already are, and they need to learn how to use this technology in ethical ways that support their learning.

## Class Connection

### Getting to Know Student-Facing AI

Step 1: Visit a student-facing AI site such as Socrat.ai or Brainly.com.

Step 2: Decide on a current topic you are teaching your students, and think about what you want them to engage in. Here are a few options to consider:

- Discourse
- Debate
- Review
- New learning
- Other \_\_\_\_\_

Step 3: Using tools provided on the student-facing site, create an assignment that will help students practice the content and activity decided above.

Step 4: Try it out as if you were the student.

Step 5: Think about the results and decide if revisions are needed. Consider the following questions:

- Does the assignment created help students practice what I want them to practice?
- Will my students be able to engage with the tools provided on this site?
- Is there a way the assignment could be more specific?

### AI SITES WORTH EXPLORING

Here is a list of the sites we have been exploring for use by educators. Naturally, it is an ever-growing and changing list. We hope this is the start for your exploration, not the end.

#### Large Language Model AI

- *Bard*: LLM from Microsoft that uses open-ended prompting
- *ChatGPT.ai*: LLM from OpenAI that uses open-ended prompting
- *Claude.ai*: LLM from Anthropic that uses open-ended prompting

#### Teacher-Facing AI

- *Briskteaching.com*: Chrome extension teachers can use to provide various levels and types of feedback on student work in Google Classroom

- *Curipod.ai*: Lesson-planning tool that integrates multiple mediums
- *Diffit.ai*: Content-generation tool for teachers
- *Eduaide.ai*: Tools and prompts specific for teacher function, including gamifying lessons, creating choices boards, etc.
- *Educationcopilot.com*: Unit and curriculum planner
- *Gamma.app*: Design tool dedicated to formatting presentations and instantly creating slide decks off of content provided
- *Learnt.ai*: Tools and prompts specific for teacher function, largely focused on resources that support planning and productivity
- *MagicSchool.ai*: Tools and prompts specific for teacher function, including report card comment generator, multiple-choice question generator, text-dependent question generator, etc.

#### Student-Facing AI

- *Brainly.com*: AI-powered tutor meant for students and caregivers
- *Briskteaching.com*: Chrome extension students can use to get different types of feedback on work produced in Google Classroom
- *Consensus*: Tool that acts as a research assistant, merging features of a basic search-engine and generative AI
- *Khanmigo*: AI-powered tutor knowledgeable in wide range of K-12 topics and courses
- *MeetGeek.ai*: Recording tool, originally designed for professional use, that can transcribe and summarize lectures, teaching content, or student conversation
- *Packback.co*: AI-powered writing assistant, with some features that are also useful for teachers
- *Parlay.ai*: Tool that facilitates, tracks, and measures written and verbal discussion
- *Socrat.ai*: Tool designed to foster student discussion

#### Other Powerful AI Sites

- *Audiopen.ai*: Tool that turns recorded audio into coherent composition
- *CanvaMagicWrite*: Design site that allows users to add images and videos to text and vice-versa.
- *Draftback*: Chrome extension that timelines (and plays back) the writing process of a Google Doc; can be used for students to reflect on writing process and for detection of AI generated text copied onto an assignment
- *TeachFX.ai*: Coaching tool focused on student or teacher talk

## TERMS TO KNOW

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In the early pages of this book, or in your initial exploration of AI, you have likely encountered several words and phrases specific to the field. Below is a list of useful definitions for the terms we feel will be most important for you to know as you delve into understanding how AI can benefit educators. We suggest marking this page and using it as a glossary as you engage with the chapters that follow.

- **AI detection:** Tools that attempt to detect the use of AI on a body of work
- **algorithm:** Set of rules or steps followed to get to particular solution
- **applications:** Programs designed to perform certain tasks
- **artificial intelligence:** Technology programmed to think and learn just like humans
- **augmented learning:** integrating technology to enhance a learning experience
- **beta:** Indicates that something is open to use but still in test, or trial, mode
- **bias:** Unfair or prejudiced preferences in data algorithms or output
- **chatbot:** A computer designed to have conversations with human users
- **coding:** Human instructions written in a way that can be read by a computer
- **copilot:** In technology, this refers to a tool or system that assists the user
- **generative AI:** Artificial intelligence technology that can create new content (images, text, music, etc.)
- **guardrails:** Policies or restrictions used to be sure AI handles data responsibly
- **hallucinations:** AI-generated output that is not accurate or does not make sense
- **human-in-the-loop:** The necessity of incorporating human intelligence with an automated system
- **Large Language Models (LLM):** Systems that can process and generate human-like language
- **Personally Identifiable Information (PII):** Data or input that could identify a specific individual
- **platform:** The system, a combination of software and hardware that operates a certain technology
- **prompt:** The skill of crafting strong prompts—human-written requests, directions, questions, or cues for AI—is crucial
- **synthetic content:** Content (text, video, audio, etc.) generated by AI that appears similar to human-generated material

## Check for Understanding

We end each chapter using AI's assistance to create an assessment that will help you review the content of the chapter and check for understanding. The teacher-facing AI sites mentioned throughout this playbook have features that can assist you with creating classroom assessment items, including multiple-choice questions, matching questions, true/false questions, fill-in-the blank questions, discussion prompts, and scenario-based questions. In each chapter, we vary the check for understanding section to show you one of these tools in action. See Appendix for answers to all Check for Understanding questions.

Here are five multiple-choice questions about Chapter 1: Getting to Know AI.

Question 1: What does the Kübler-Ross Change Curve, as mentioned in the chapter, aim to capture?

- a) Emotional response to change
- b) Development of technology
- c) History of AI
- d) Ethical concerns of AI

Question 2: What is the primary purpose of large language model (LLM) artificial intelligence tools?

- a) Present a list of websites for independent exploration
- b) Generate and create human-like content
- c) Offer step-by-step directions for various tasks
- d) Act as a search engine

Question 3: What is the function of teacher-facing artificial intelligence sites?

- a) Platform for student interactions
- b) Educator assistant for creating engaging resources and generating content
- c) An easily accessible bank of lesson plans
- d) Tool for storing student data

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Question 4: What is the primary audience of this playbook?

- a) Parents and caregivers
- b) Educational policymakers
- c) Members of the public
- d) Teachers and leaders

Question 5: What does the term *guardrails* refer to in the context of AI, as mentioned in the chapter?

- a) Policies or restrictions used to ensure AI handles data responsibly
- b) The system that operates AI technology
- c) Human intelligence incorporated with an automated system
- d) Programs designed to perform certain tasks

## CONCLUSION

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Did you accomplish the challenge? If so, congratulations. If not, there's still time to try on at least one AI tool. And if your emotional response is still at the level of shock, denial, or frustration, hang in there with us. Remember that author and futurist Isaac Asimov said, "I do not fear computers. I fear the lack of them." The absence of these tools could lead to missed opportunities, stalled progress, and the lack of solutions to complex problems—so let's roll up our sleeves and dive in.