

EDUCATIONAL INNOVATION PROJECT

CREATIVITY AND ARTIFICIAL INTELLIGENCE: DEVELOPMENT OF CRITICAL THINKING IN FUTURE INDUSTRY 5.0 WORKERS



UNIVERSIDAD
POLITÉCNICA
DE MADRID

escuela técnica superior de
ingeniería
y **d**iseño
industrial

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EDUCATIONAL INNOVATION GROUP: INDUSTRIAL GRAPHIC EXPRESSION. NOVEMBER, 2024

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TIPS TO GET OUT OF A
“HALLUCINATION” LOOP

7

REFER TO CHATGPT

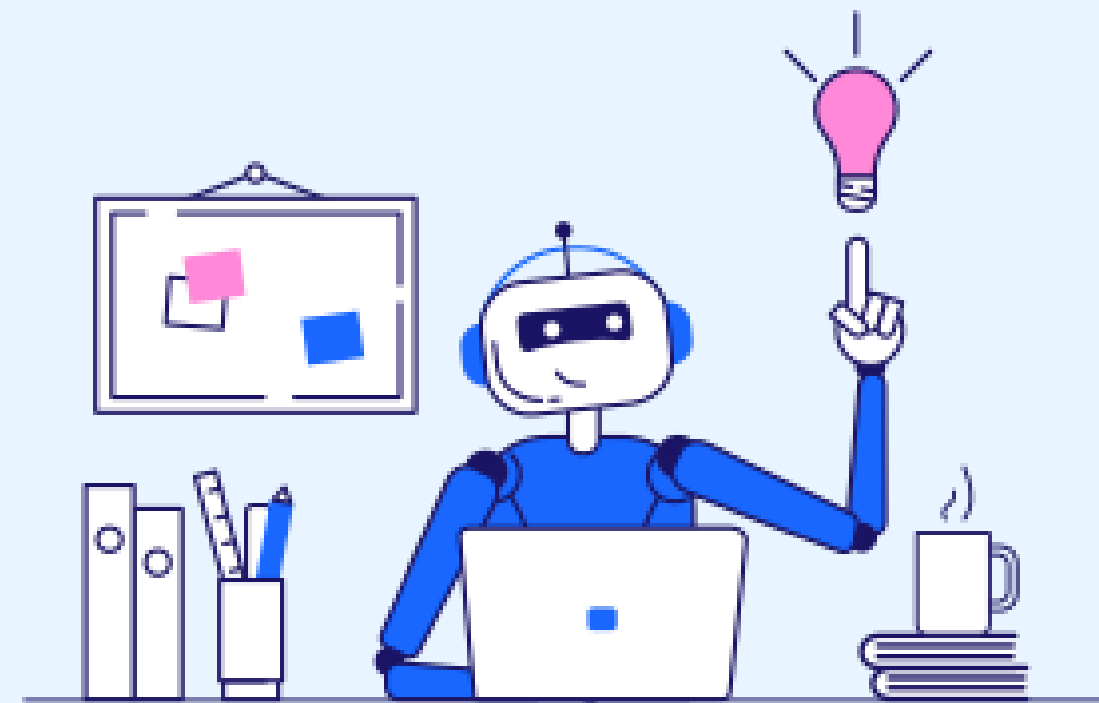
8

ADDITIONAL TIPS

1

WHAT IS AN AI GENERATOR?

- An AI generator is a computer system that uses machine learning algorithms to autonomously generate content, simulating the human ability to create texts, images, or other types of information.
- **Examples of AI generators:**
 - OpenAI's GPT (text generator)
 - DALL-E (image generator)
 - MuseNet (music generator)



2

WHAT IS A PROMPT?



- A prompt is a text input or instruction provided to the AI generator to guide its generation process.
- It is crucial for obtaining desired results and avoiding unintended biases in the model's output.
- A well-structured and clear prompt is fundamental for generating accurate and relevant results from an AI model.

2

TYPES OF PROMPTS

DESCRIPTIVE:

- Describes a situation or context for generating text.
- Example: "Describe a sunny day at the beach."

INTERROGATIVE:

- Poses a question the model will answer in its generated text.
- Example: "What would you do if you met an alien?"

INSTRUCTIVE:

- Provides a sequence of steps or instructions for the model to follow when generating text.
- Example: "Write a recipe for making homemade pizza."

INSPIRATIONAL:

- Offers a general idea or theme for the model to develop a creative text.
- Example: "Imagine a world where animals can talk."

3

|

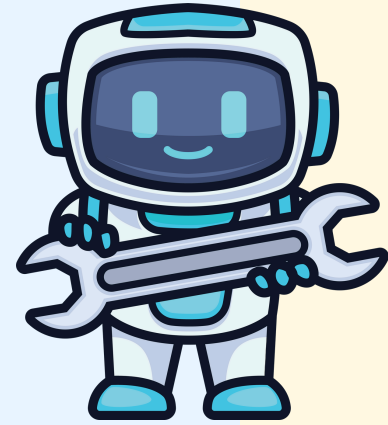
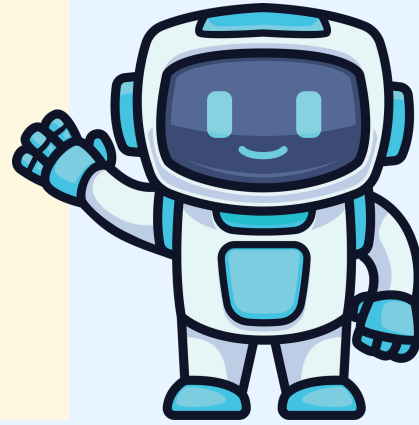
METHODOLOGY





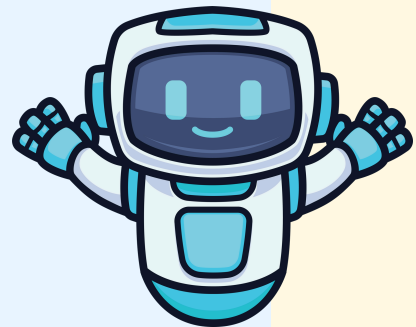
TASK (mandatory)

What should it respond to us?



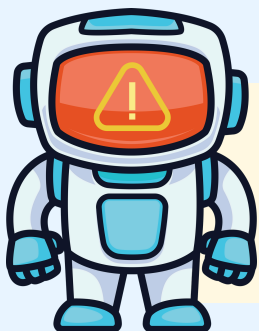
Advisable to start with a verb:

Argument	Change	Check	Clarify	Combine	Compile
Compare	Conclude	Create	Criticize	Defend	Define
Describe	Expand	Explain	Generate	Illustrate	Include
Infer	List	Make	Predict	Produce	Propose
Provide	Recommend	Replant	Restructure	Summarize	Write



Prompt:

"Write down the requirements and parameters to be considered when designing a bicycle torch holder, adaptable to any part of the bicycle."

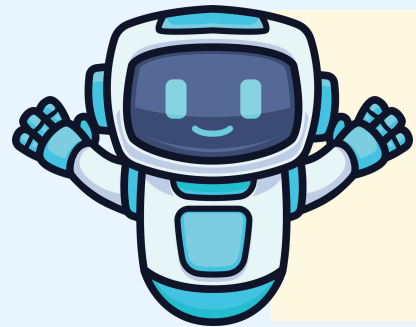
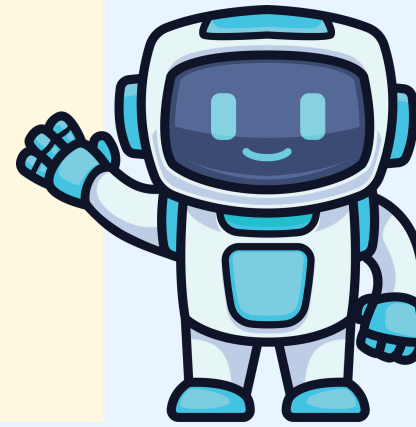


- It is **mandatory** to include the task in the prompt.
- You get a well-directed response but not very precise.



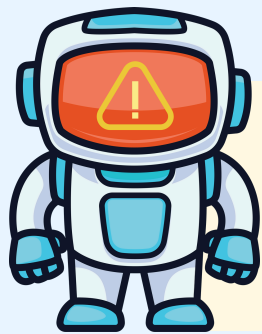
Explain the situation:

- Who are we?
- What do we want to achieve?
- What is the current situation?



Prompt:

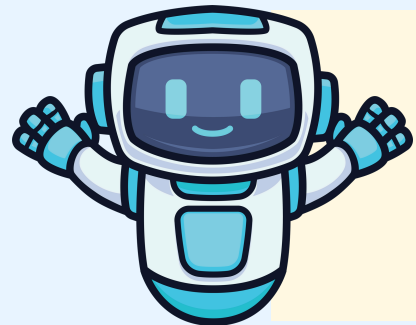
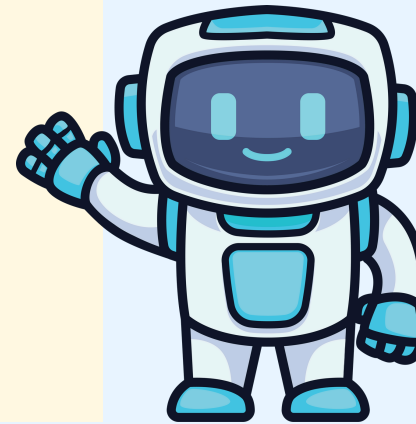
"I am an industrial and mechanical engineer who designs products, I want to establish the requirements that my design must meet in order to manufacture it with a 3D printer. Currently I only have some initial sketches."



- It is important to include the context in the prompt.

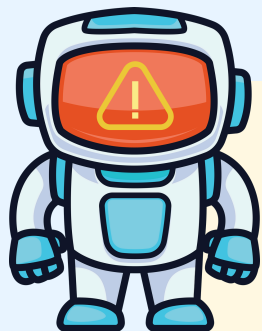
Explain the situation:

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Prompt:

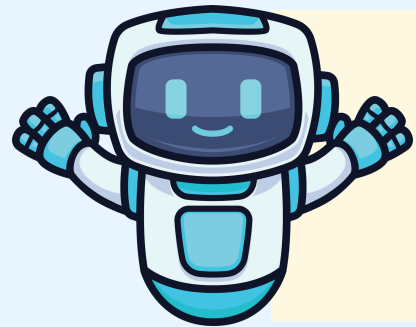
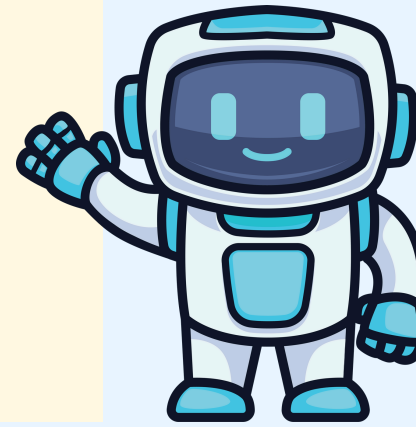
"**I am an industrial and mechanical engineer** who designs products, I want to establish the requirements that my design must meet in order to manufacture it with a 3D printer. Currently I only have some initial sketches.



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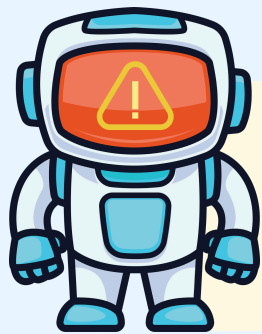
Explain the situation:

- Who are we?
- **What do we want to achieve?**
- What is the current situation?



Prompt:

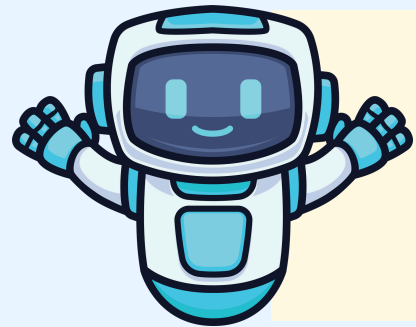
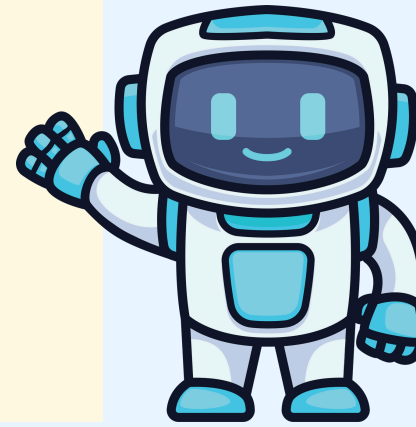
"I am an industrial and mechanical engineer who designs products, **I want to establish the requirements that my design must meet in order to manufacture it with a 3D printer.** Currently I only have some initial sketches.



- It is **important** to include the context in the prompt.

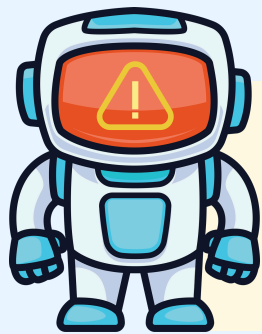
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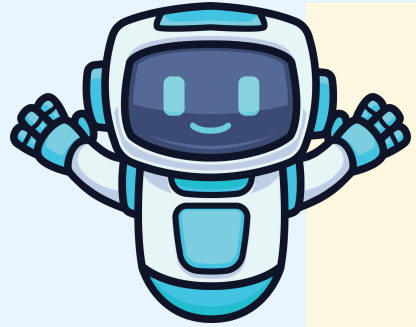


Prompt:

"I am an industrial and mechanical engineer who designs products, I want to establish the requirements that my design must meet in order to manufacture it with a 3D printer. **Currently I only have some initial sketches.**"



- It is **important** to include the context in the prompt.

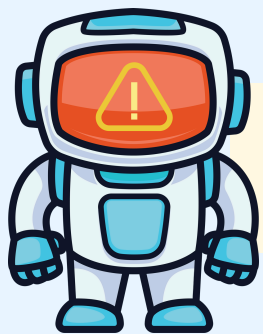


Prompt:

"I am an industrial and mechanical engineer who designs products, I want to establish the requirements that my design must meet in order to manufacture it with a 3D printer. Currently I only have some initial sketches.

Write the requirements and parameters to be taken into account when designing a bicycle torch holder, adaptable to any part of the bicycle".

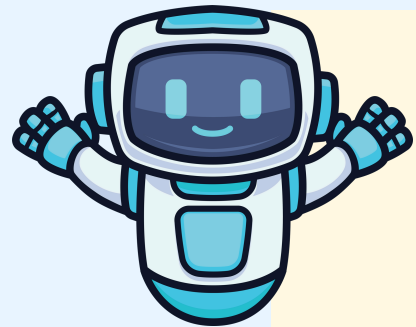
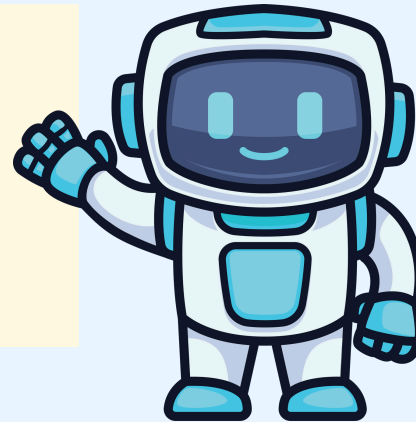
} Context
} Task



Even more **complete** and **accurate** response.



Giving an example always leads to better answers



Prompt:

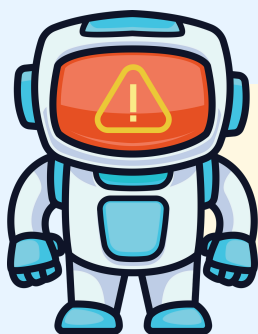
“Write a paragraph for each of the following parameters that I am going to show you:

- Dimensions and geometry
- Material and strength
- Attachment mechanisms
- Compatibility with different light sizes
- Weather resistance

For example: The torch holder, must be compatible with most types of bicycles. This is achieved by an adjustable clamping system that can be adapted to the diameter and shape of the handlebar tube and frame tube of the bicycle.”

} Example

It is not mandatory but **advisable**.



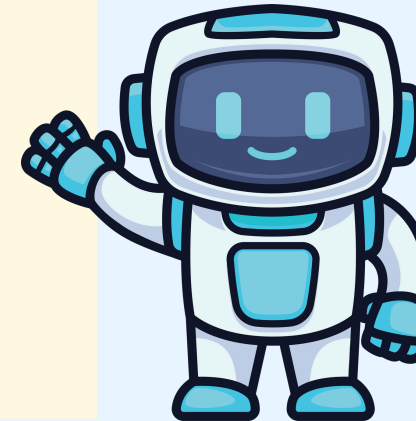


We decide what role we want the AI to play.

Who do we want the AI to play?

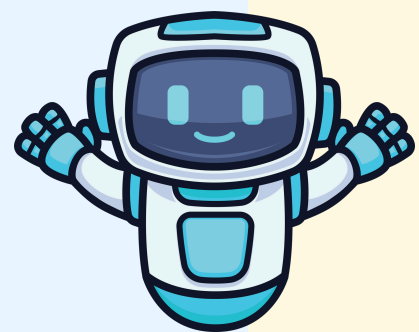
How is the AI going to act?

(as if it were an actor)



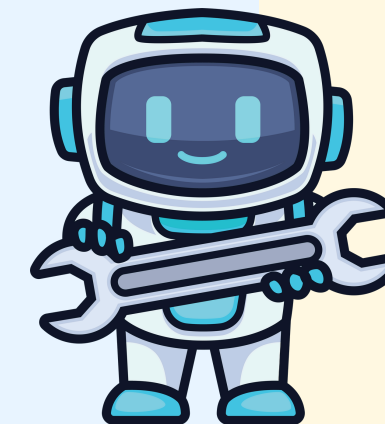
Example of personas:

- Designer
- Manufacturer
- Analyst
- Engineer
- Architect
- Programmer

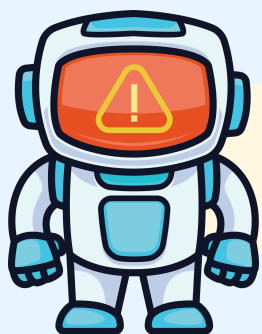


Prompt:

“You are an expert engineer focused on product design.”

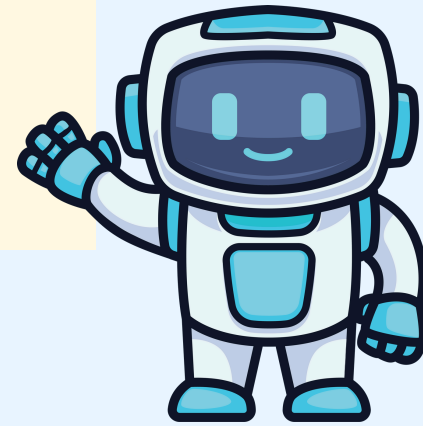


It is not mandatory but **improves** response quality.





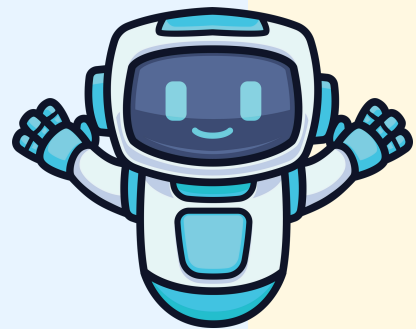
How should it give us the information?



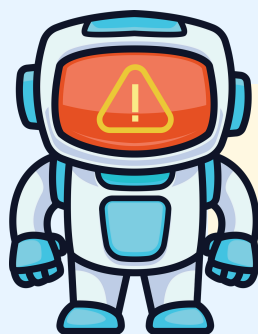
Prompt:

“Create a table for me with all the information where the column headers are:

- Parameters
- Function
- Novelty
- Material
- Dimensions”

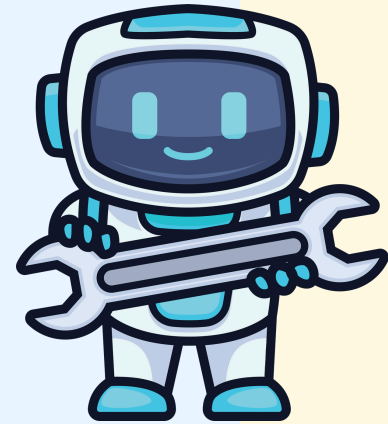
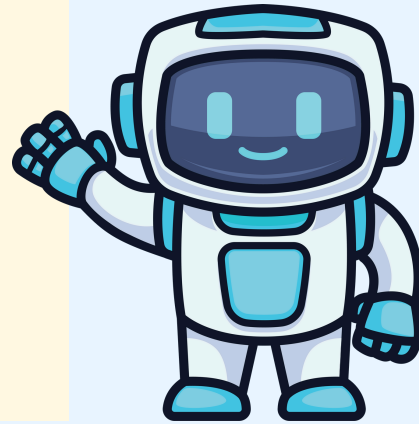


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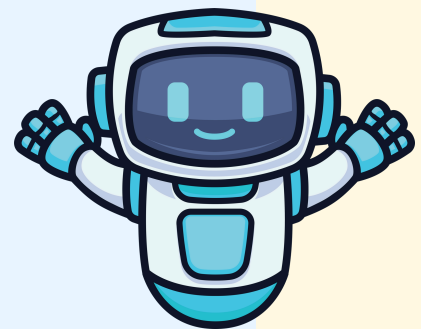


How should it respond to us??



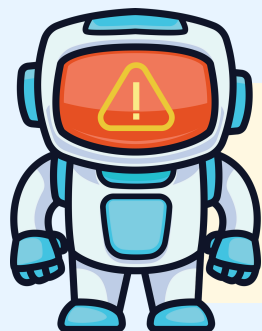
Advisable to start with a verb:

Academic	Accesible	Assertive	Attractive	Casual	Cheerful
Colloquial	Detailed	Educational	Emphatetic	Encouraging	Enthusiastic
Formal	Friendly	Informal	Informative	Inspirational	Melancholic
Motivational	Neutral	Personal	Professional	Reflexive	Scientific



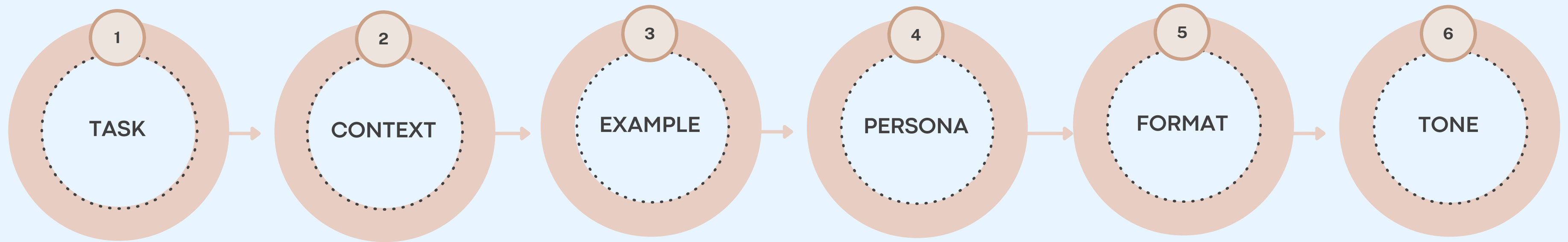
Prompt:

"Write down the requirements and parameters to be taken into account when designing a bicycle torch holder, adaptable to any part of the bicycle, with a **technical and formal tone**".



It is not mandatory but **improves** response quality.





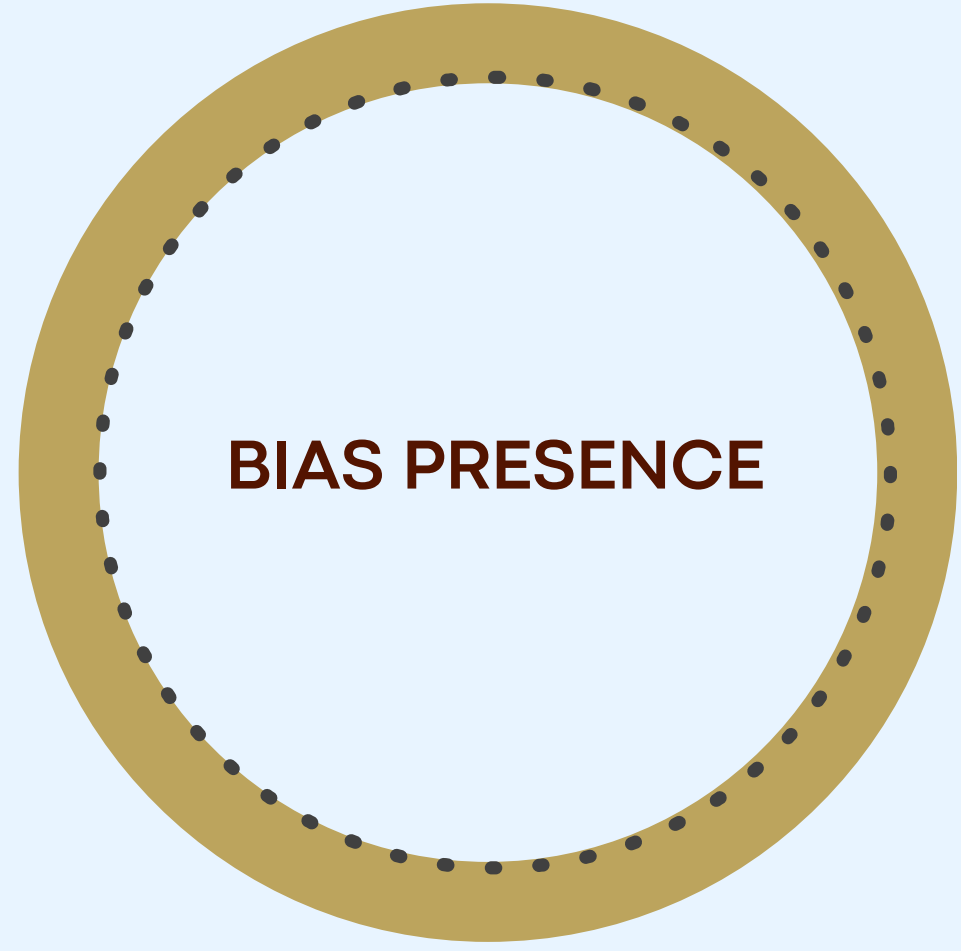
THE METHODOLOGY PHASES FOR PROMPT



4

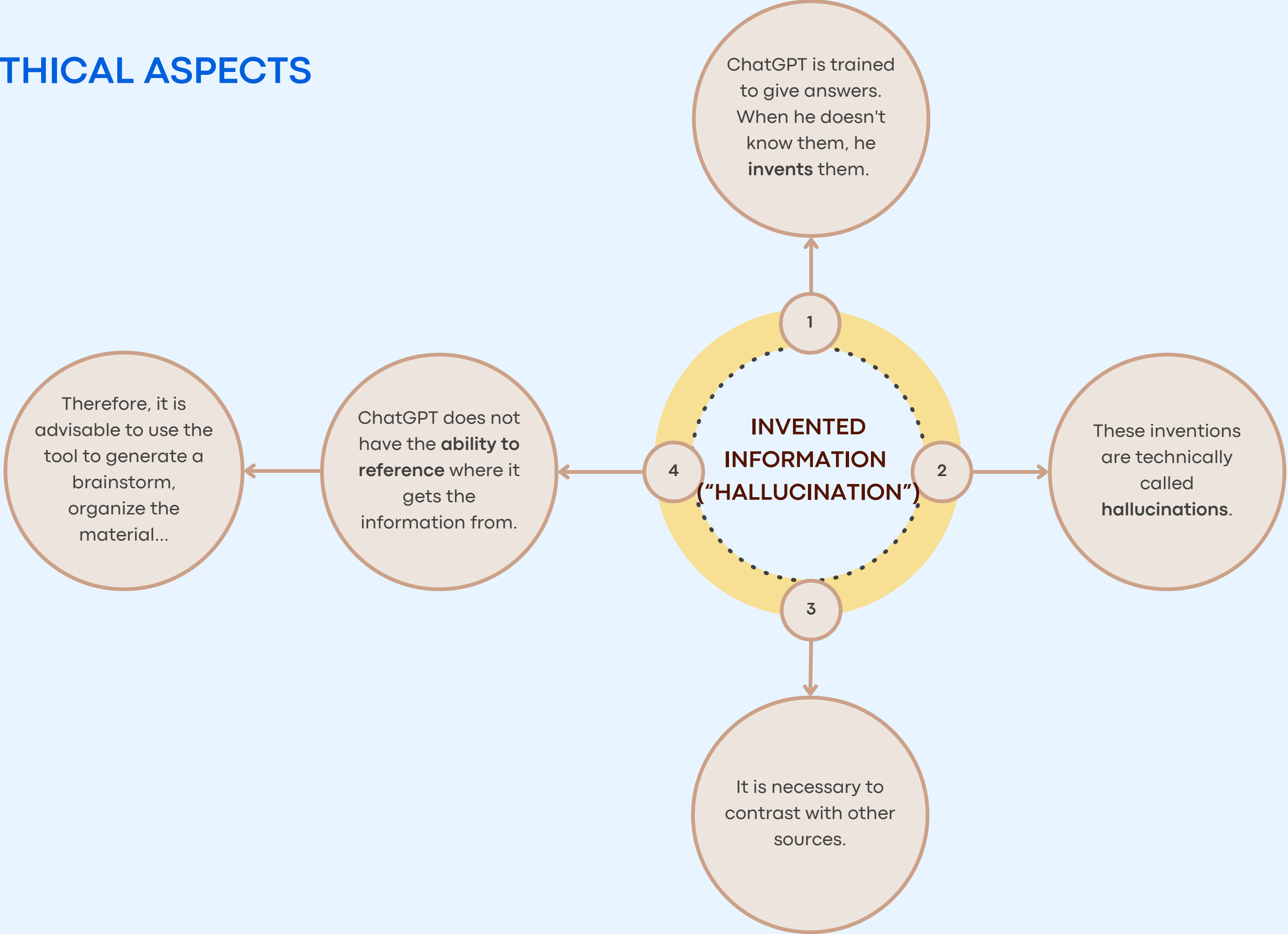
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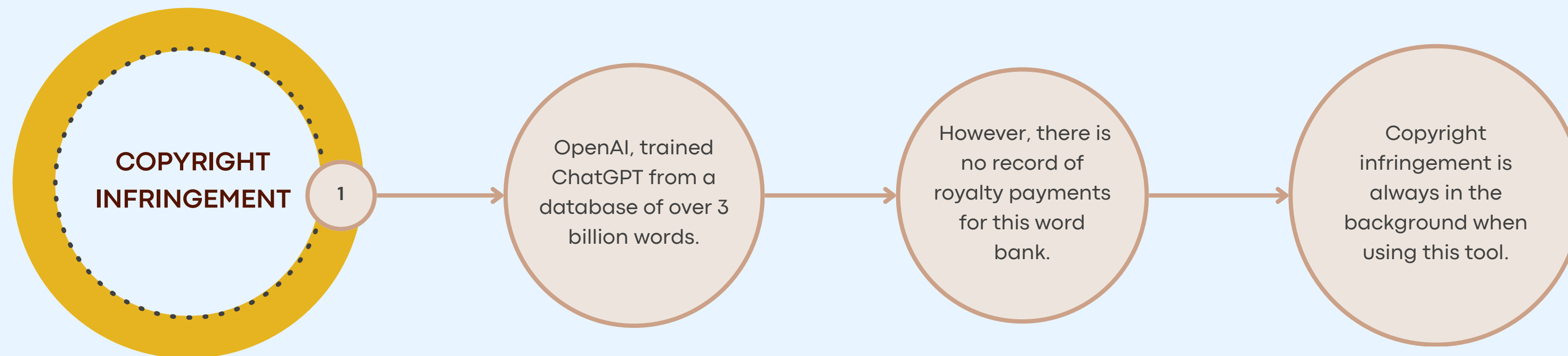
ETHICAL ASPECTS



4

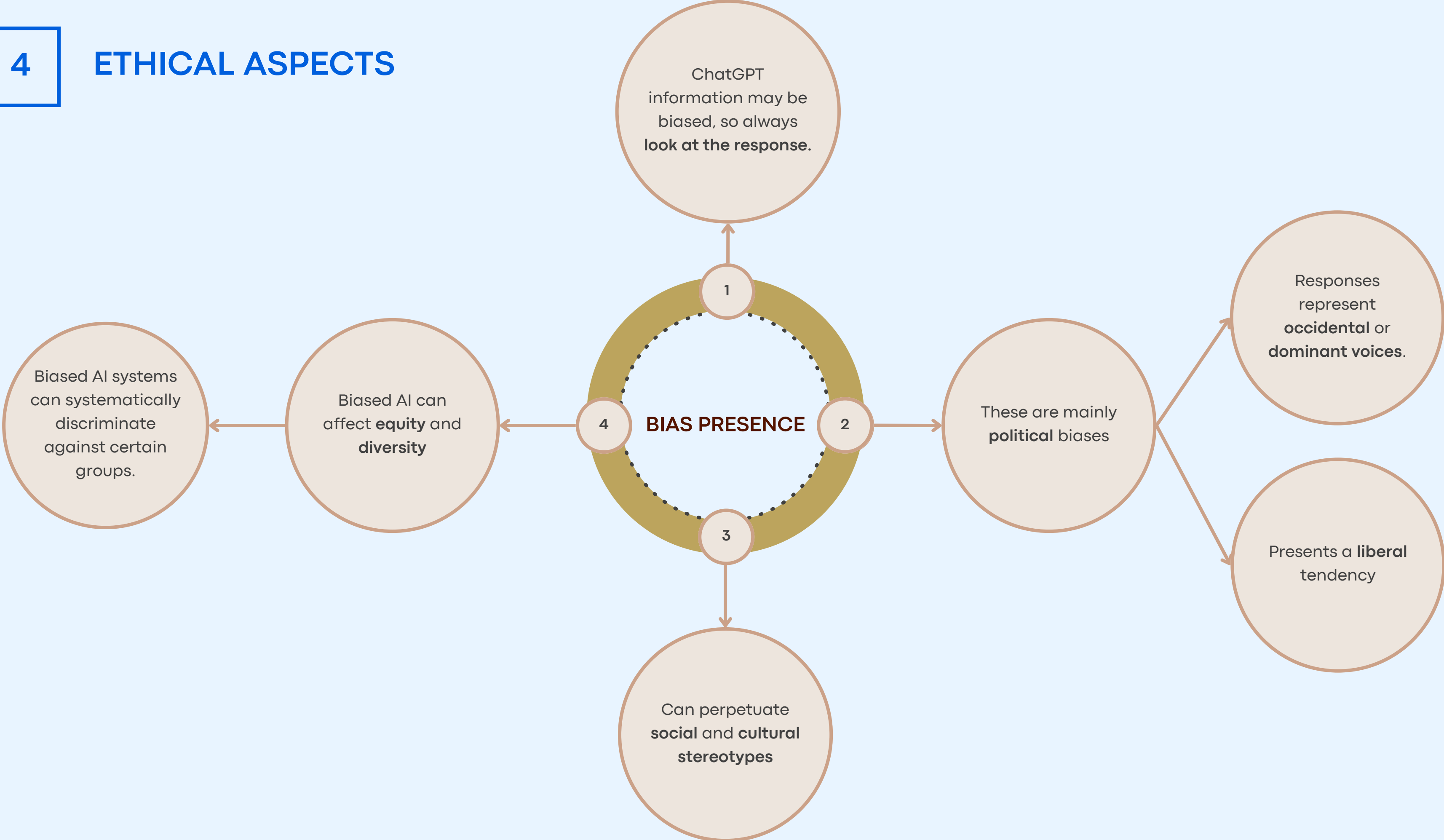
ETHICAL ASPECTS

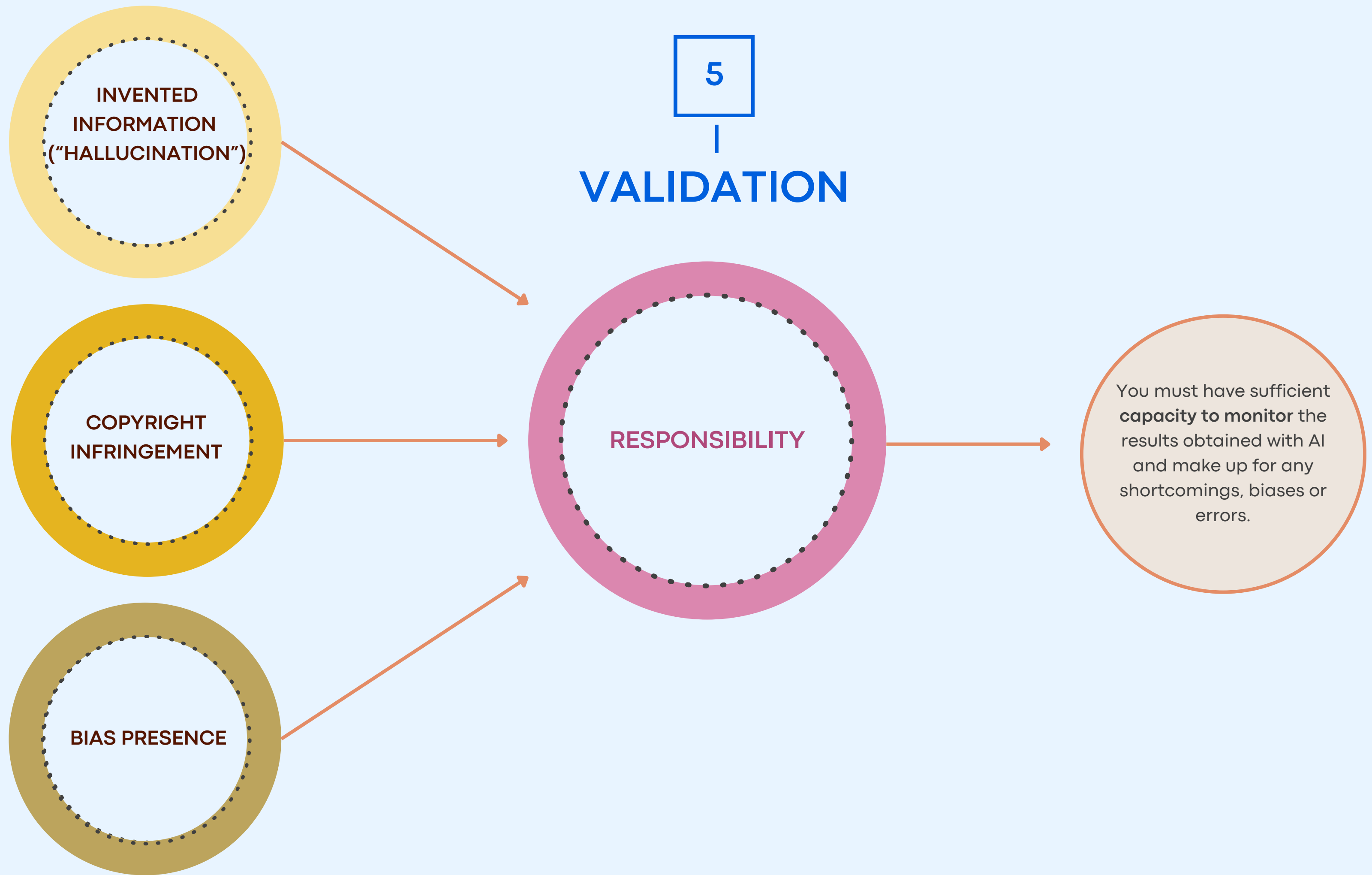


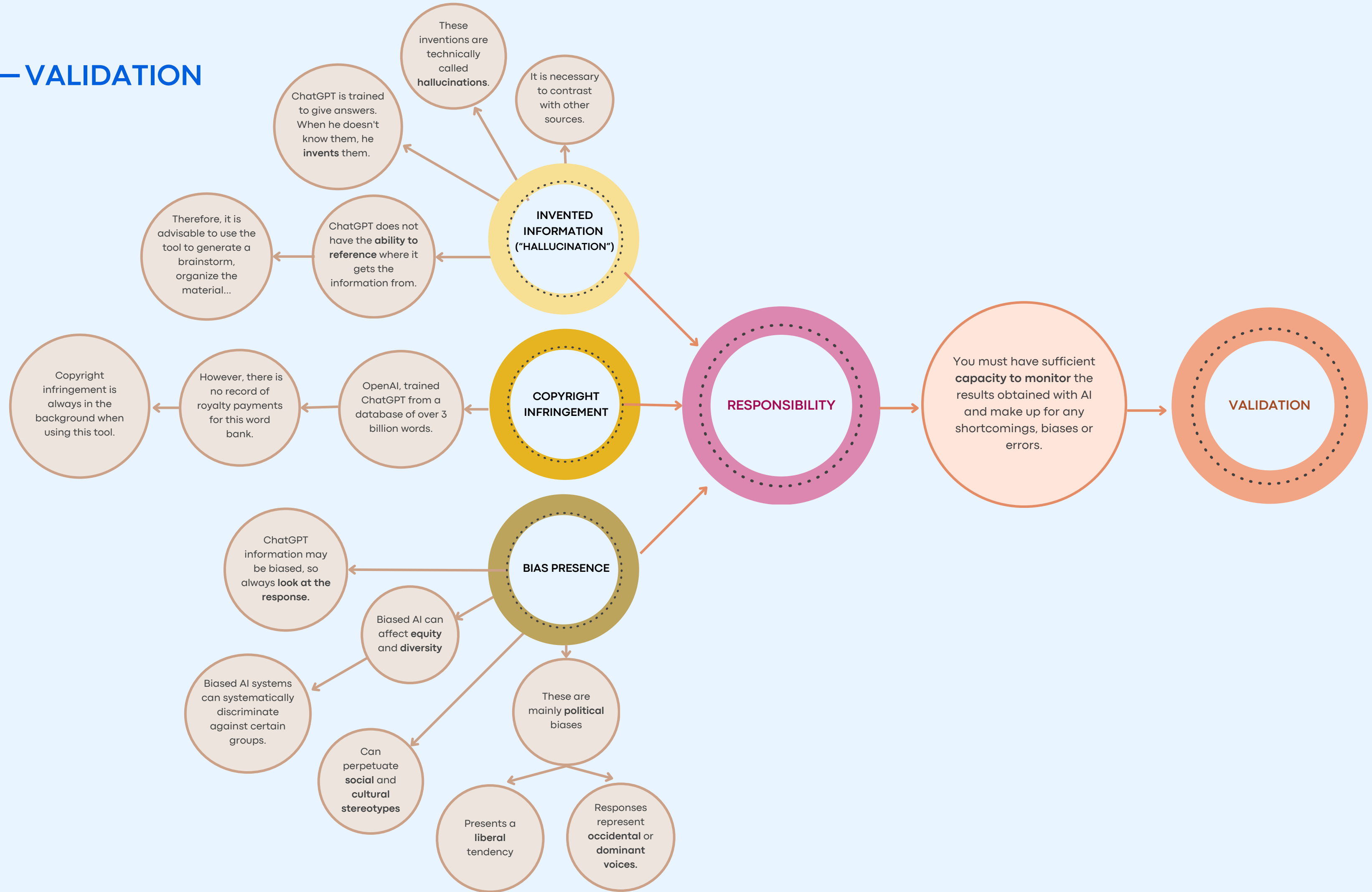


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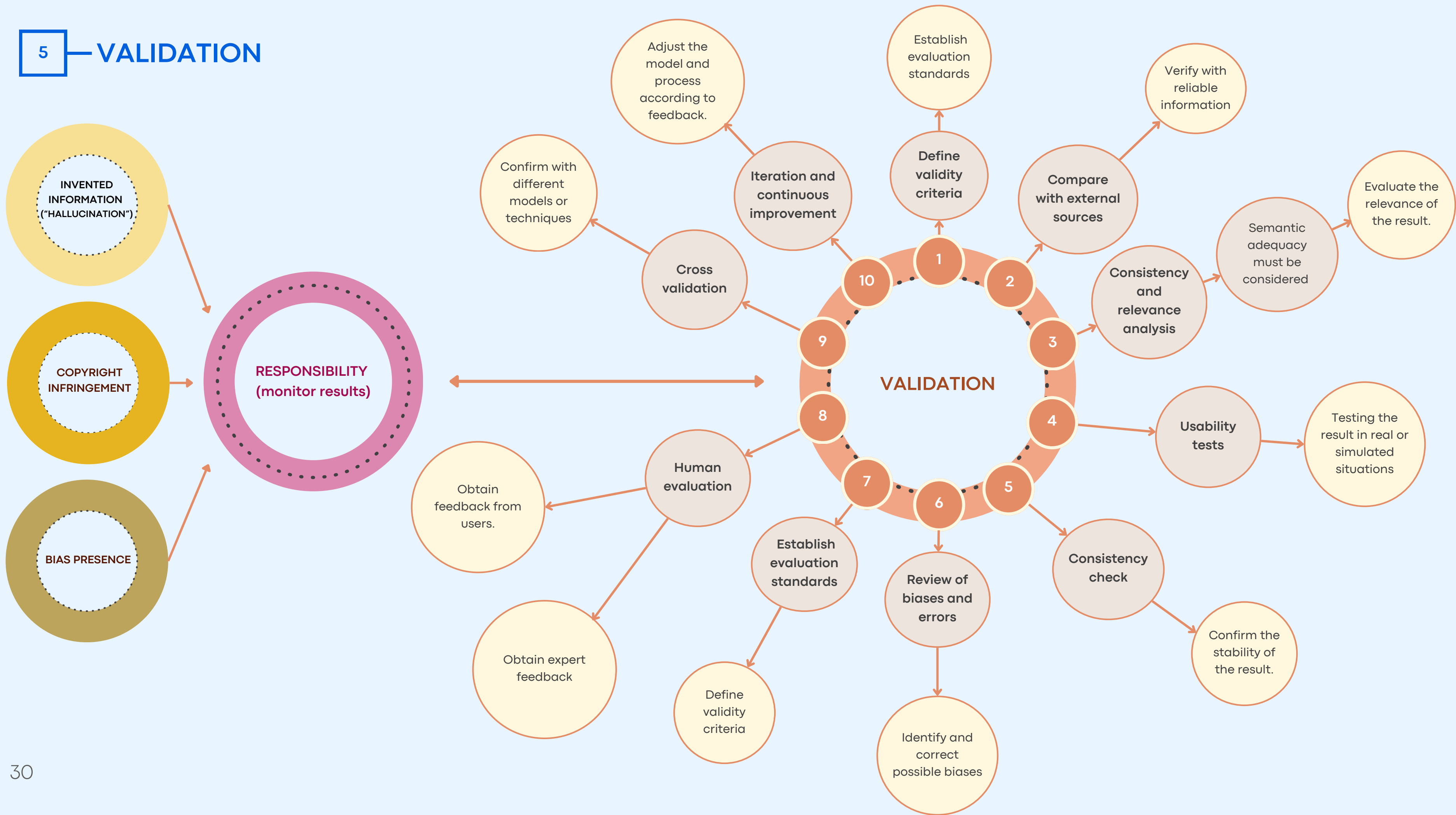
ETHICAL ASPECTS



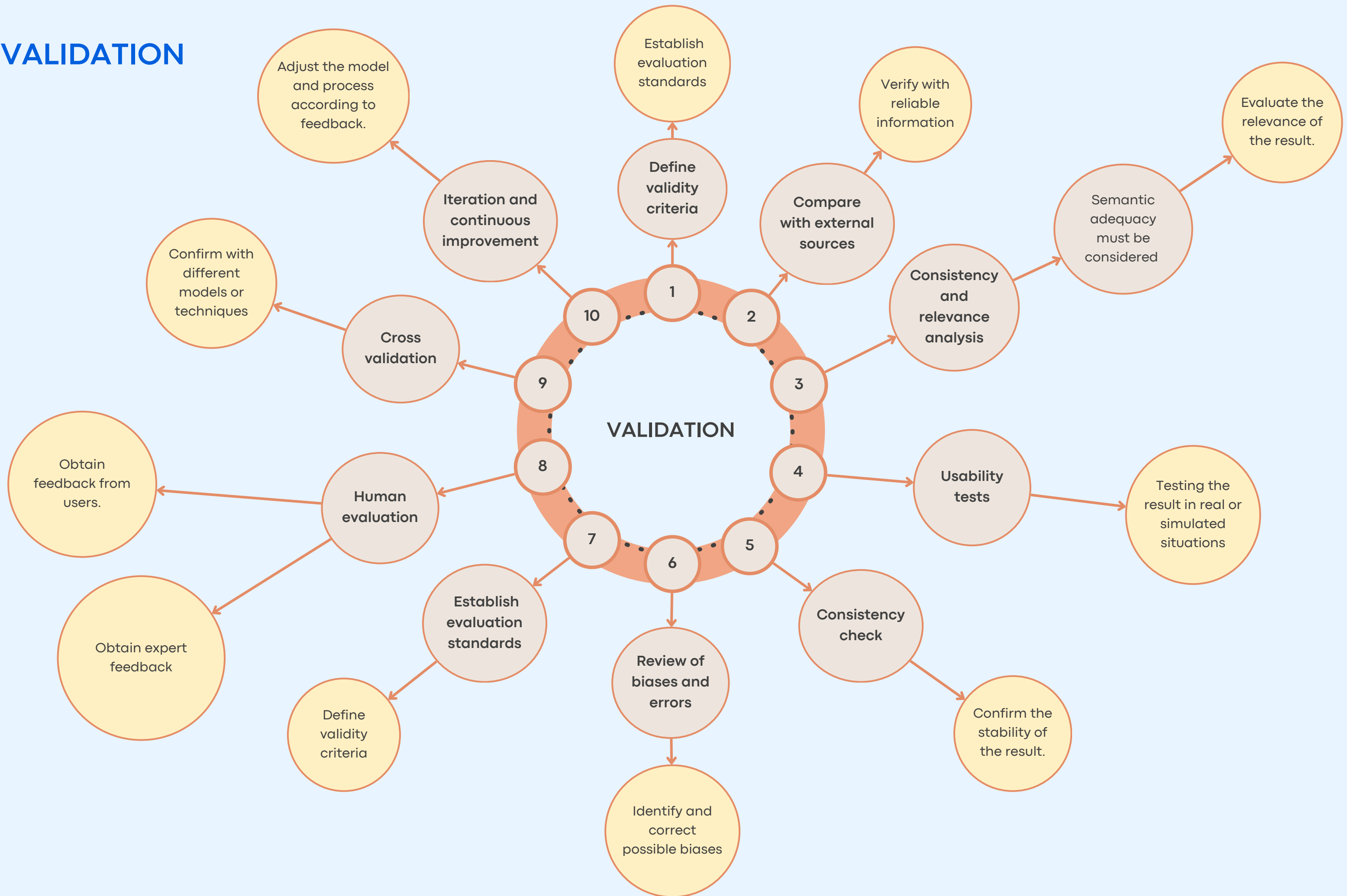




5 — VALIDATION

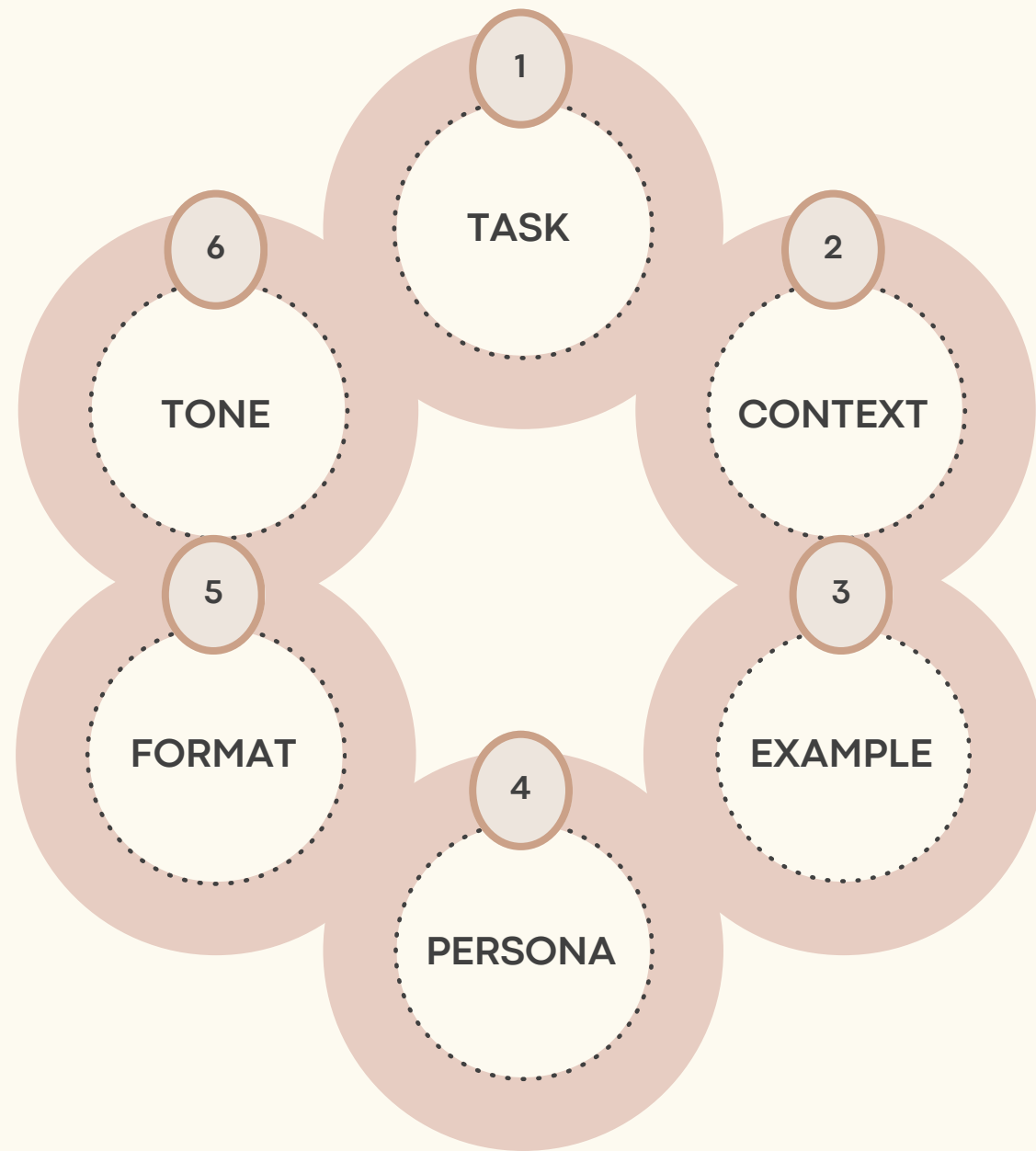


5 — VALIDATION

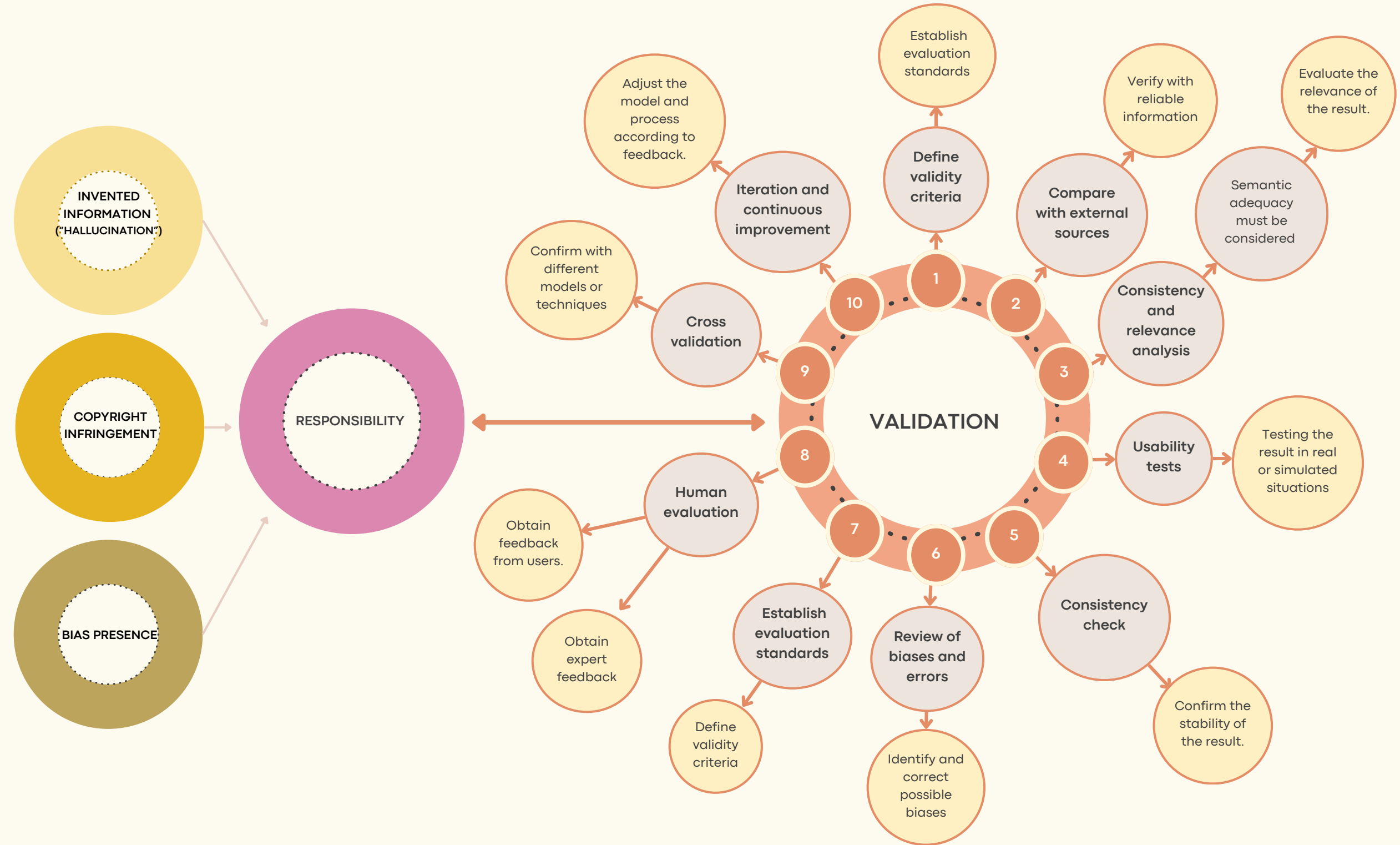


SUMMARY OF THE METHODOLOGY

PROMPT

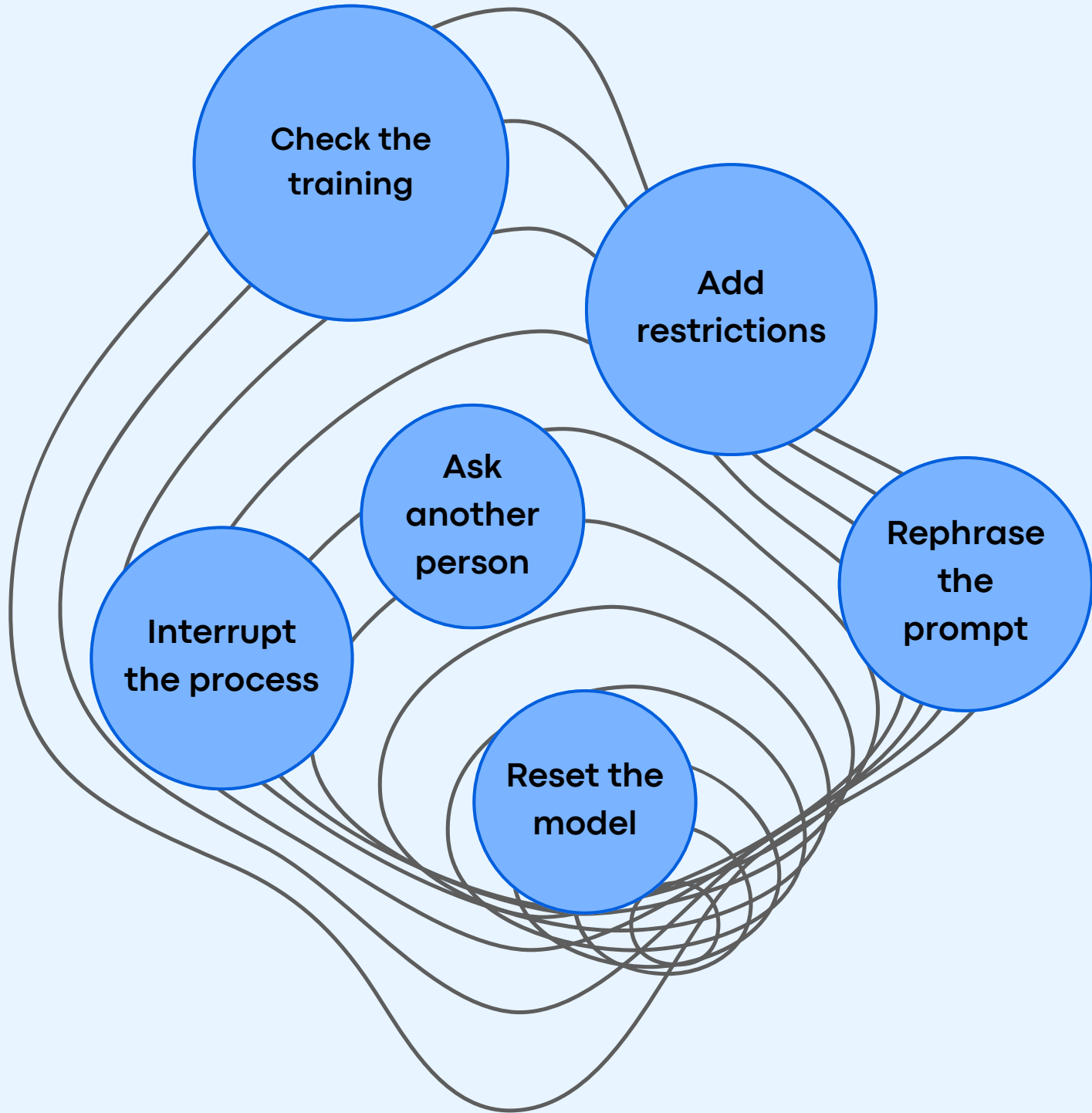


VALIDATION



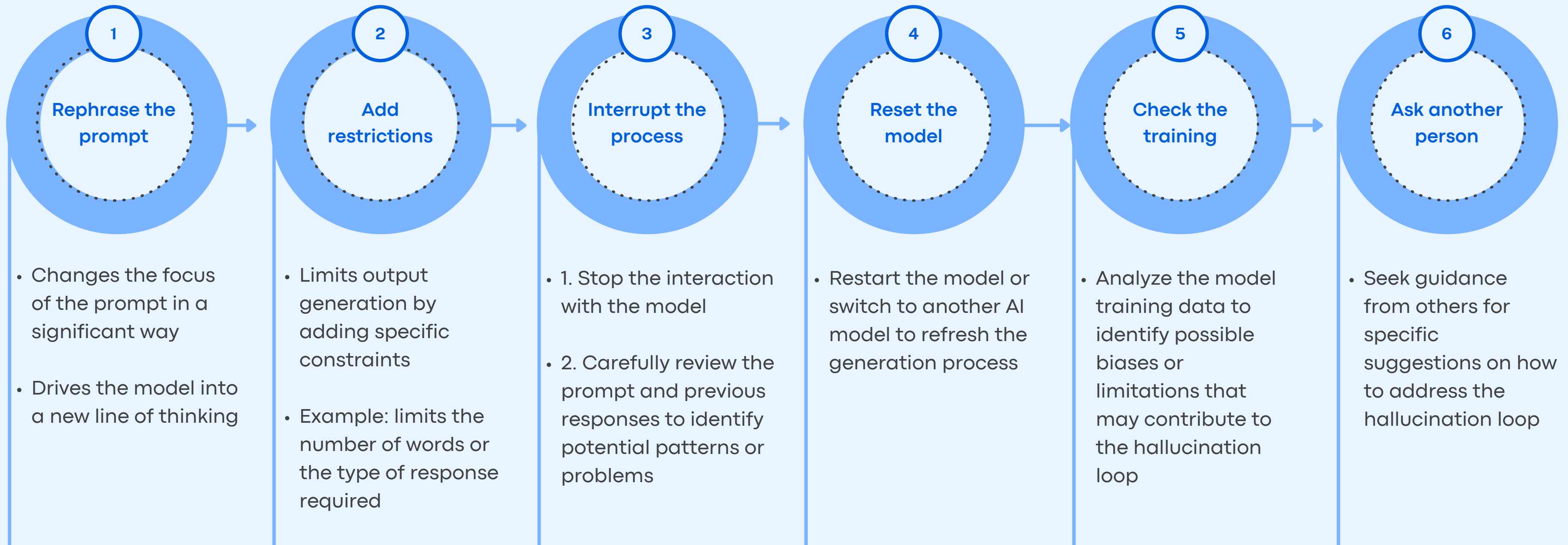
6

TIPS TO GET OUT OF A "HALLUCINATION" LOOP



6

TIPS TO GET OUT OF A "HALLUCINATION" LOOP





REFER TO CHAT GPT



Citation in APA format should include:

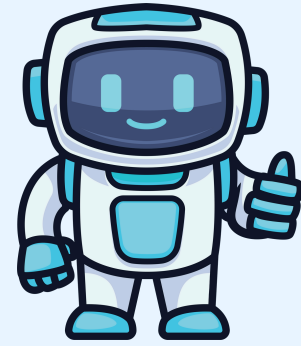
- Author: OpenAI (or the name of the organization responsible for developing ChatGPT)
- Date: [Date on which the content was generated].
- Title of the text generated: [Title of the text generated by ChatGPT].
- Source: ChatGPT [GPT-3 language model] (Add the specific version of the model).
- URL: [Link to the website or platform where the content was generated].

The result would be:

- OpenAI (2023, July 26). Title generated by ChatGPT. ChatGPT [GPT-3 language model]. Retrieved from [<https://chat.openai.com>]

Short Citation (Author, Year):

(OpenAI, 2023).



8

ADDITIONAL TIPS

1

SPECIFICITY AND
DETAIL IN THE
PROMPT

2

CLEAR TARGET

3

APPROPRIATE
FORMAT

4

PROMPT
EXAMPLES

5

PROMPT LENGTH

6

RELEVANCE OF
DETAILS

7

EXPERIMENTATION
AND
ITERATION

8

AVOID
INACCURACY

9

TO DO OR NOT TO
DO?

10

START SIMPLE

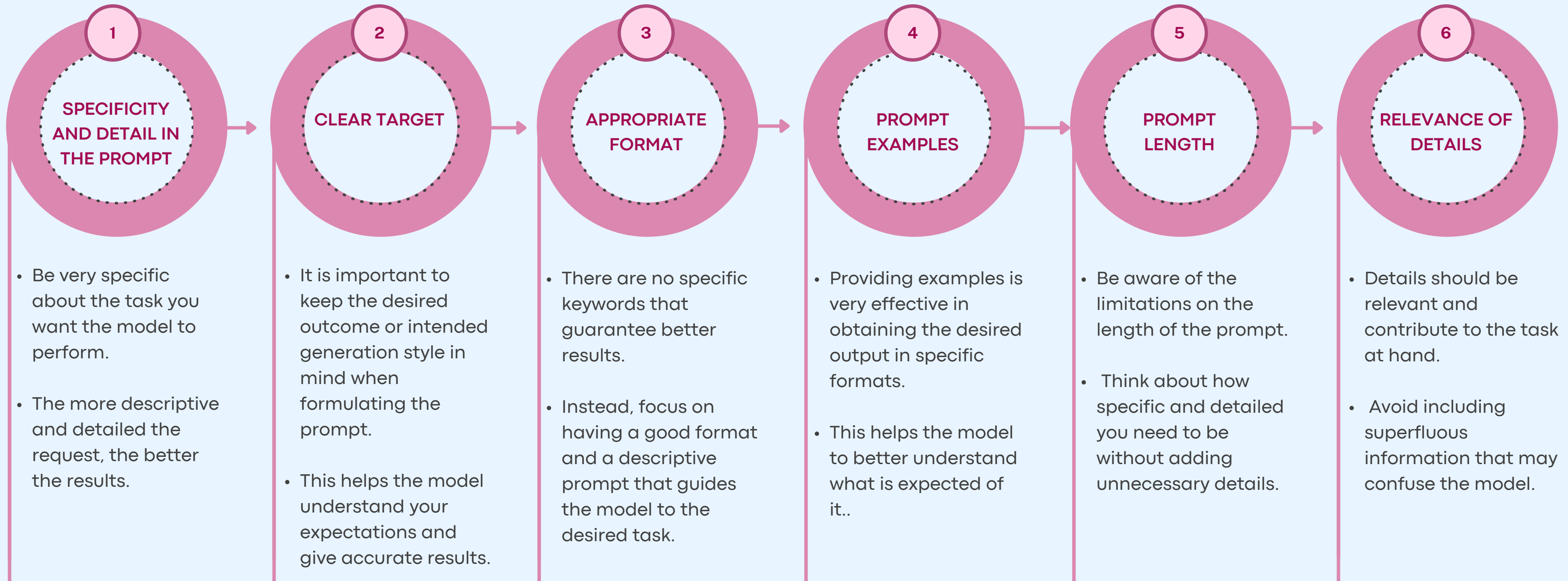
11

BREAK LARGE
TASKS INTO
SIMPLE SUBTASKS.

12

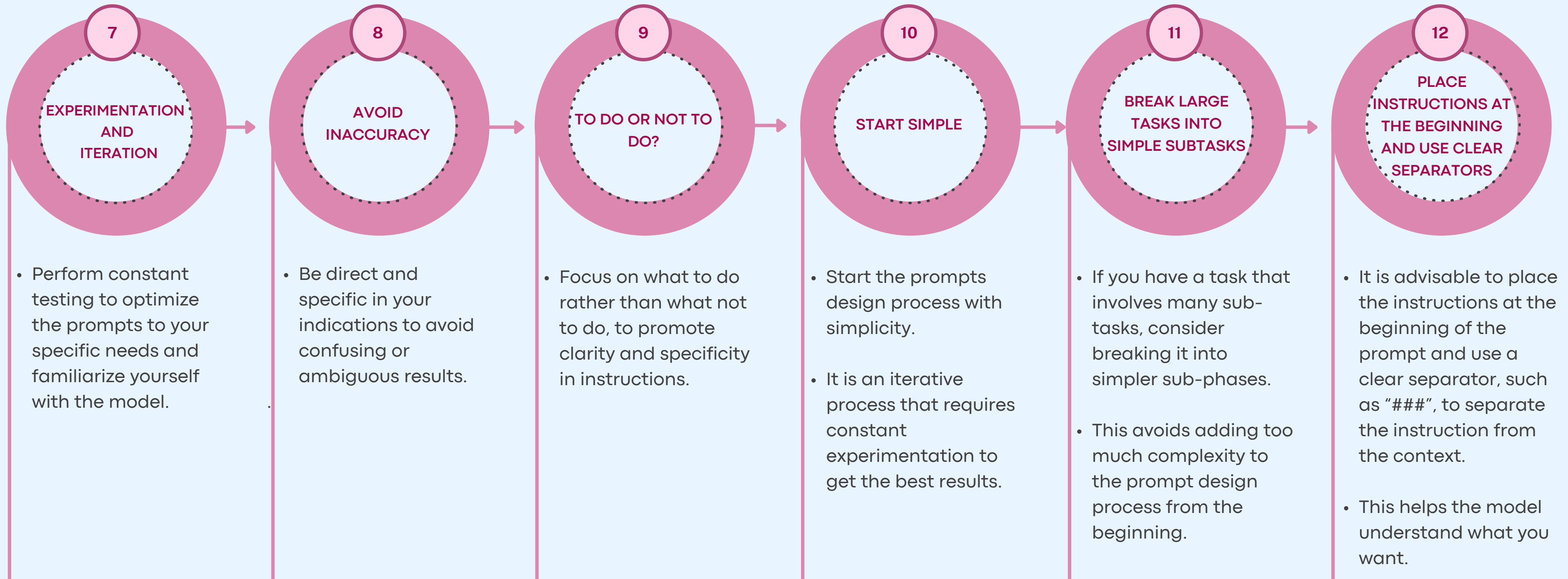
PLACE
INSTRUCTIONS AT
THE BEGINNING
AND USE CLEAR
SEPARATORS.

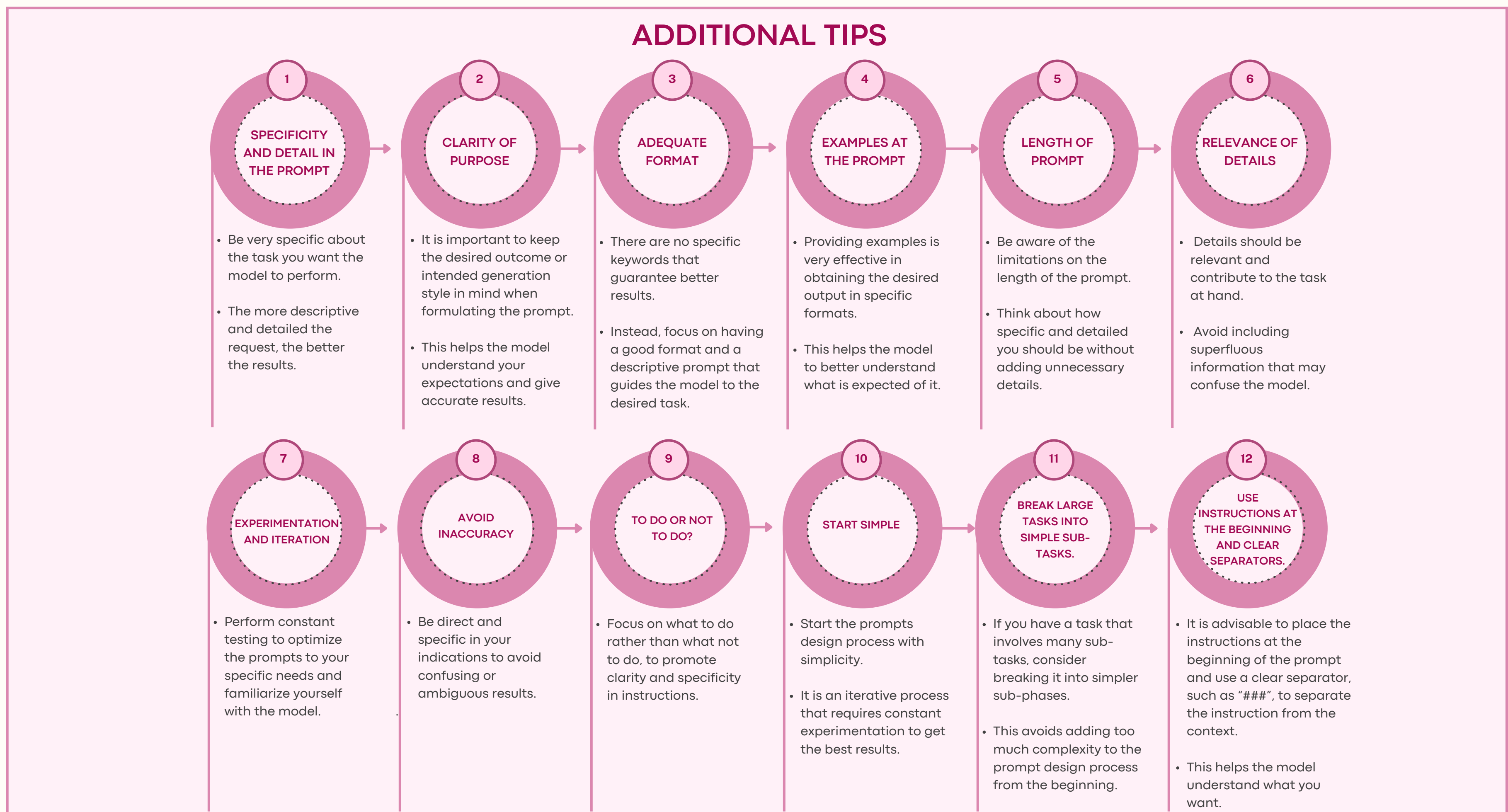
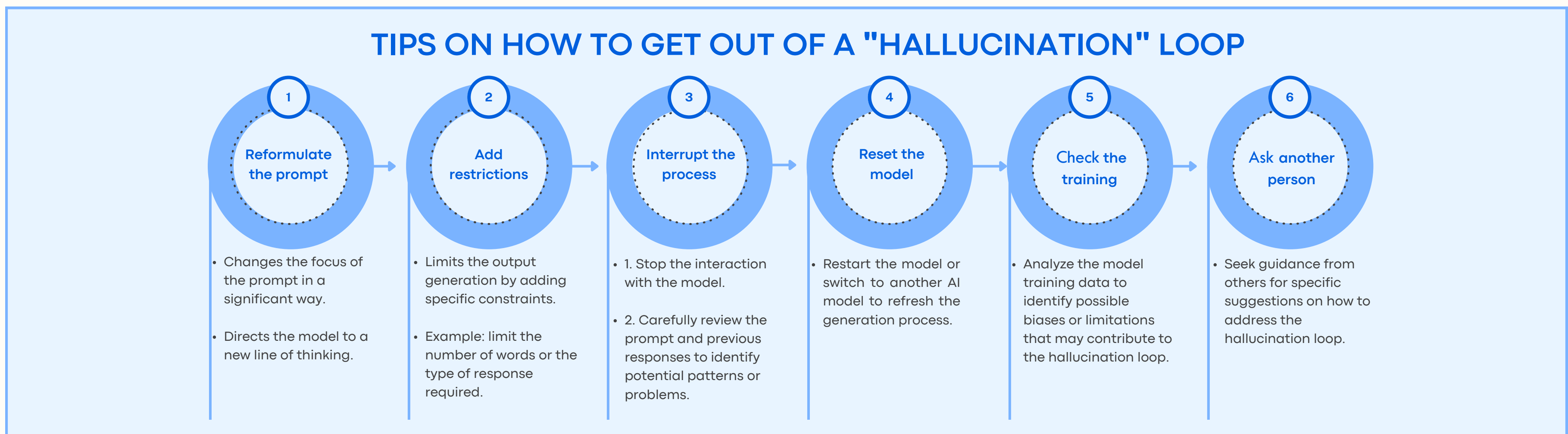
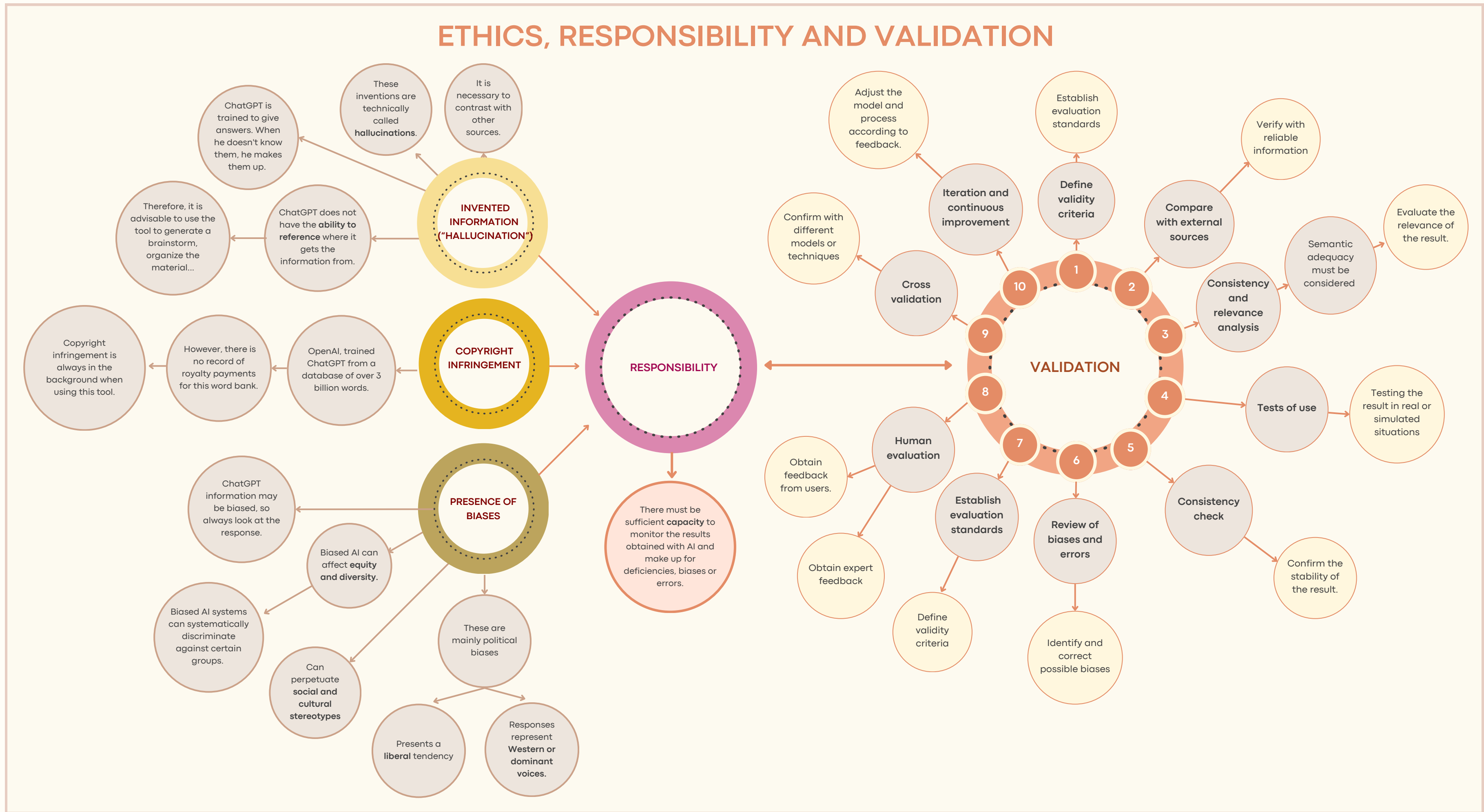
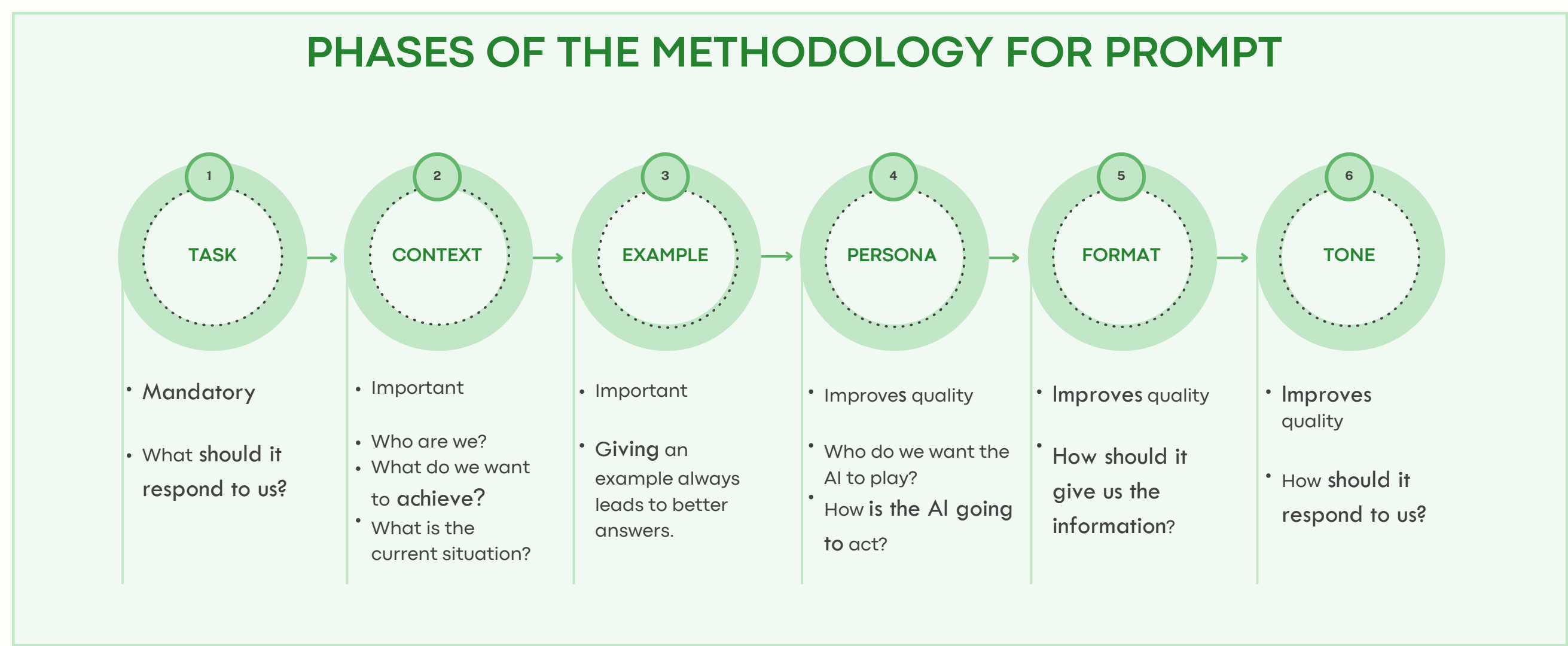
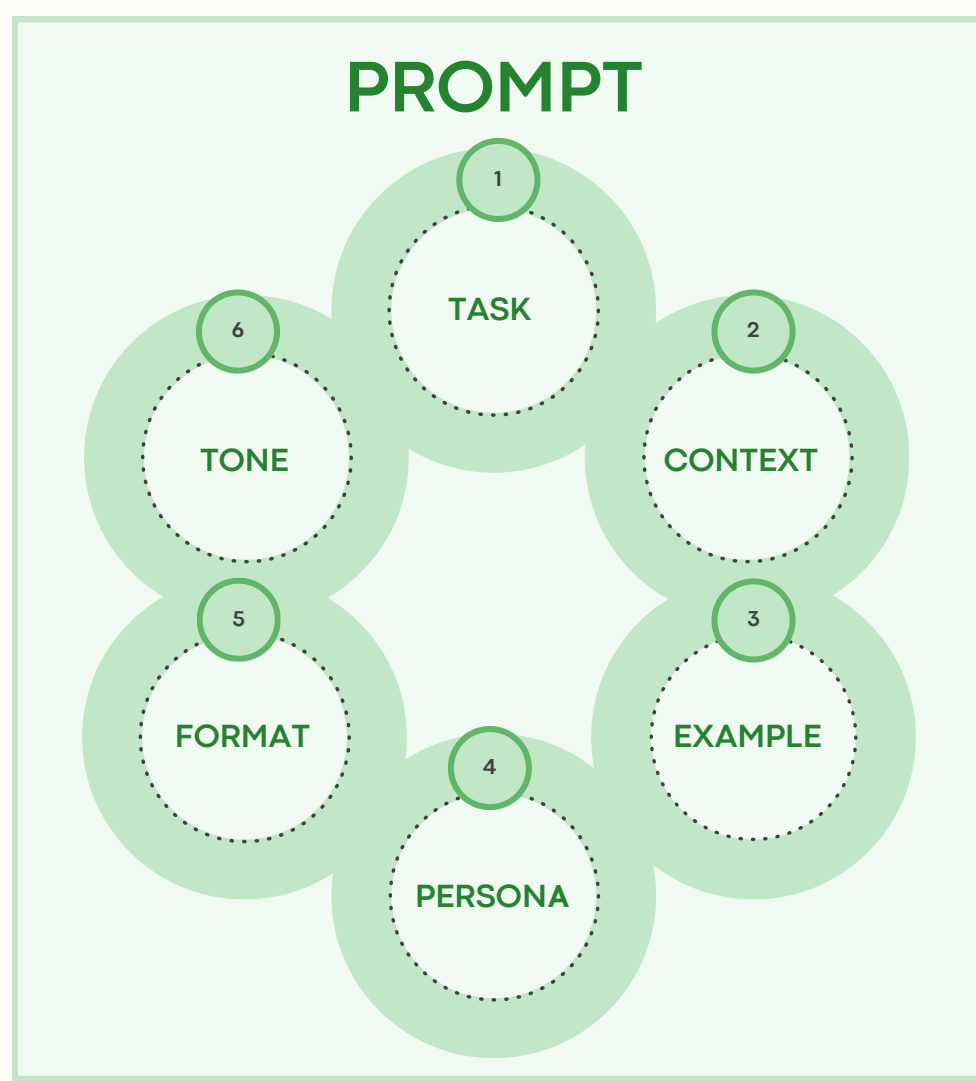
ADDITIONAL TIPS



8

ADDITIONAL TIPS





THANKS FOR YOUR ATTENTION!

AUTHORS:

Patricia Abril-Jimenez, Sofia Sanchez-Mateo, Lucia Garijo
Alonso, Alvaro Rodriguez-Ortiz, Rosa Ocaña López,
Carlota Gigosos.



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