Prompt Optimization Cheat Sheet

1. **Prompt Structure Basics**

Poor Prompt	Optimized Prompt
Write something about climate change.	Write a 150-word summary explaining the causes and effects of climate change for high school students.

✔ Tip: Always include context, task type, length, and audience when possible.

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2. **Common Prompt Patterns**

Technique	Example
Zero-shot	"Translate the following to French: Good morning."
Few-shot	"Q: What's the capital of France? A: Paris. Q: What's the capital of Germany? A:"

Technique	Example
Chain-of-thought	"Solve this step-by-step: If John has 5 apples and gives away 2, how many does he have left?"

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3. **Modifiers to Refine Output**

Modifier	Use It To…	Example
Tone	Set mood or formality	"Explain this in a friendly and engaging tone."
Length	Control verbosity	"Summarize in under 100 words."
Format	Structure output	"Provide the answer as a bullet list."

4. **Prompt R ed Flags (Avoid These!)**

Problem	Example	Fix
Vague task	"Tell me about space."	"Give me a short paragraph explaining how black holes form."

| Bias-prone phrasing | "Why are women worse drivers?" | "What are the statistics on driving behavior by gender?" |
| Multi-task overload | "Explain climate change and also suggest ways to stop it and give me a quiz." | Break into separate prompts |

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5. Prompt Testing Checklist ☑

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1.   Clear instructions

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2.   Defined audience and tone

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3.   Specified output format

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4.   Bias and neutrality checked

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5.   Worked across at least two AI models

Result-Based Difference: ChatGPT vs Claude vs Gemini

Criteria	ChatGPT (GPT-4)	Claude (v2/v3)	Gemini (1.5 Pro)
Response Clarity	Very clear, especially with structured prompts	Sometimes overly verbose or philosophical	Clear with technical prompts, but may need structure
Criteria	ChatGPT (GPT-4)	Claude (v2/v3)	Gemini (1.5 Pro)
Tone Adaptability	Adapts tone well (formal, friendly, etc.)	Strong empathy and natural tone	Tends to sound neutral and robotic without prompt tuning
Context Retention	Excellent (remembers long threads and nested logic)	Good but occasionally forgets earlier instructions	Moderate—can drop context in longer interactions
Bias Handling	Occasionally mirrors bias from training data	Actively tries to avoid bias	May reinforce subtle bias without mitigation

Coding Support	Great with examples and error debugging	Often descriptive, less executable code	Good, especially with structured programming prompts
Summarization Accuracy	Strong at capturing key points	Highly detailed, sometimes too detailed	Occasionally misses nuance in factual summaries
Instructional Content Creation	Generates concise and structured learning content	Great for explanations, very human-like	Visually and factually aligned outputs
Creative Writing	Balanced creativity and coherence	Very human-like and engaging storytelling	Sometimes formulaic, lacks emotional depth
Prompt Flexibility	Handles vague and complex prompts well	Needs clarity to perform well	Performs best with technical and instructional prompts
Speed of Response	Slight delay (especially GPT-4 with browsing)	Fast and stable	Very quick and snappy