

CORE

Lab 10: Palette as Argument

Design color palettes that explain data logic, guide emotion, and survive critique

Chapter Chapter 10	Level Intermediate	Time ~2.5-3 hr
Mode Individual or pair	Technology Any course-approved LLM	Deliverable Map scenario brief

Why This Lab Matters

Chapter 10 argues that color is not decoration. Color is the first argument a map makes. This lab teaches you to direct palettes through data logic, hue, value, saturation, accessibility, and rhetoric instead of letting an LLM choose colors by habit.

Essential question

What cartographic decision should you be able to defend by the end of this lab?

Learning Objectives

- State the cartographic purpose, audience, evidence, and constraints.
- Use an LLM or assistant as a collaborator while preserving human judgment.
- Revise the artifact or prompt based on explicit critique.

At a glance

Inputs: Lab scenario, prompts, data notes, or map concept supplied in the activity.

Outputs: Map scenario brief; Color Literacy Brief; Scheme decision memo.

Evaluation: Clear purpose, defensible cartographic judgment, concise prompting, and evidence of human verification where needed.

LAB WORK

Setup: Choose a Color-Sensitive Map ~15 min

Choose one map scenario where color could easily mislead, overstate, or soften the message.

- Urban heat island intensity by neighborhood
- Election margins by district
- Water quality scores by watershed
- Hospital access by county
- Tree canopy loss by census tract
- Housing cost burden by metro area

Map scenario
Topic:
Place:
Audience:
Data type: ordered / deviation from midpoint / categories
Likely values or classes:
Emotional tone the map should support:
Interpretation the palette must avoid:
Accessibility concerns:
Cultural or political associations to handle carefully:

PROCEDURE

Part 1 - Build a Color Literacy Brief ~25 min

Ask an LLM to translate the scenario into color design requirements. Your goal is to separate hue, value, and saturation instead of asking for a vague “nice” palette.

Create a Color Literacy Brief for this map scenario. Explain how hue, value, and saturation should be used. Identify whether warm or cool colors should dominate, what should advance visually, what should recede, and which color associations could mislead the audience.

Map scenario:
[PASTE]

Color property	Design decision	Reason	Risk if ignored
Hue	Example: Use a restrained blue ramp	Example: Matches the data logic	Example: Users may read a false pattern
Value	Example: Use a restrained blue ramp	Example: Matches the data logic	Example: Users may read a false pattern

Starter examples only; expand this in your own notes or submission document.

PROCEDURE

Part 2 - Choose the Scheme Type and Make It Defensible ~25 min

Choose whether the map needs a sequential, diverging, or categorical scheme. Then make the LLM defend the choice.

Given this map scenario, identify the most appropriate color scheme type: sequential, diverging, or categorical. Explain why. Then explain what interpretive harm could occur if I used each of the other two scheme types instead.

Return your answer as a decision memo with a final recommendation.

Map scenario:
[PASTE]

Mini-deliverable

Write a 100-150 word scheme decision memo. It should explain what the palette implies about the data, not just what colors it uses.

PROCEDURE

Part 3 - Generate Three Candidate Palettes ~35 min

Generate three palettes for the same scenario. Each should include hex codes and a rationale. Do not accept a palette without an explanation.

Generate three candidate palettes for this map. Each palette must include 5-7 hex colors, a scheme type, a tone description, and a short explanation of hue, value, saturation, contrast, and possible cultural associations.

Palette 1: neutral analytical
Palette 2: urgent but not alarmist
Palette 3: restrained and public-facing

For each palette, explain what it makes users feel before reading the legend and what misunderstanding it might introduce.

Map scenario and scheme decision:
[PASTE]

Palette	Hex colors	Rhetorical effect	Data fit	Risk
Neutral analytical	Example: Short note	Example: Changes what readers notice first	Example: Good fit if the data support it	Example: Could overstate certainty
Urgent but not alarmist	Example: Short note	Example: Changes what readers notice first	Example: Good fit if the data support it	Example: Could overstate certainty
Restrained public-facing	Example: Short note	Example: Changes what readers notice first	Example: Good fit if the data support it	Example: Could overstate certainty

Starter examples only; expand this in your own notes or submission document.

PROCEDURE

Part 4 - Run an Accessibility and Culture Critique ~30 min

Use the LLM as a palette critic. Ask it to look for legibility, color-vision issues, weak value contrast, and cultural assumptions.

Critique these palettes for accessibility and cultural interpretation. Evaluate:

- likely distinguishability for common color-vision deficiencies
- whether adjacent classes rely too much on hue instead of value
- whether the palette has enough contrast for map symbols and labels
- whether red, green, blue, black, white, or other colors carry audience-specific meanings
- whether any palette implies danger, morality, prosperity, loss, cleanliness, disease, or political identity unintentionally
- what redundant cue could support the palette if color alone fails

Do not merely say the palettes are accessible. Give specific risks and revisions.

Palettes:
[PASTE]

Design integrity

Accessibility is not an add-on. If color is the only way to understand the map, the palette is doing too much alone.

PROCEDURE

Part 5 - Revise One Palette with Constraints ~30 min

Choose the strongest palette and revise it using concrete constraints. Keep the map's tone intact while improving interpretability.

Revise the selected palette. Keep its intended rhetorical tone, but improve data logic, value contrast, color-vision robustness, and cultural sensitivity. Provide:

1. revised hex colors
2. what changed from the original palette
3. why each change improves the map
4. a note on labels, outlines, patterns, or symbol treatments that should support the palette
5. one risk that still remains

Selected palette:

[PASTE]

Critique:

[PASTE]

PROCEDURE

Part 6 - Write a Palette Specification Prompt ~25 min

Turn the final palette into a reusable prompt that can guide a mapping agent or code assistant.

Write a production-ready color palette specification for this map. It must include:

- map purpose and audience
- scheme type and why it fits the data
- emotional tone
- hue, value, and saturation constraints
- exact hex colors
- accessibility requirements
- cultural interpretation cautions
- legend language that explains high/low or category meanings
- fallback behavior if contrast fails
- a self-check asking the assistant to justify the palette before using it

Write this as a concise specification, not a general explanation.

PROCEDURE

Part 7 - Compare Against a Bad Palette ~20 min

Now make the contrast explicit. Ask the LLM to generate a bad or mismatched palette and explain why your specification is better.

Create one intentionally poor palette for this same map by choosing a mismatched scheme type, weak value contrast, or culturally misleading colors. Then compare it with my final palette specification. Explain the interpretive harm caused by the poor palette and the design protections built into my final specification.

Mini-deliverable

Write a short “palette warning label” explaining what would go wrong if the bad palette were published.

DELIVERABLE

Submission ~20 min

- Map scenario brief
- Color Literacy Brief
- Scheme decision memo
- Three candidate palettes with hex codes and rationales
- Accessibility and culture critique
- Revised final palette
- Production-ready palette specification prompt
- Bad palette comparison and warning label
- 400-600 word reflection: How did color change the map’s argument before any symbols were read?