

CORE

Lab 14: The Animation Worthiness Test

Specify temporal motion only when it explains change better than static maps

Chapter Chapter 14	Level Intermediate	Time ~2.5-3 hr
Mode Individual or pair	Technology Any course-approved LLM	Deliverable Temporal scenario brief

Why This Lab Matters

Chapter 14 argues that animation earns its place only when motion explains temporal change better than static alternatives. This lab teaches you to justify animation, specify temporal controls, make time visible, and constrain motion so it serves interpretation.

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: Temporal scenario brief; Animation justification or static alternative; Temporal variables table.

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

LAB WORK

Setup: Choose a Temporal Map Scenario ~15 min

Choose one scenario where time matters. It may be real or hypothetical.

- Wildfire spread over 14 days
- Hurricane track and forecast cone
- Sea-level rise projections over 50 years
- Decennial population change by county
- Transit delays over a day
- Historic journey or migration route

Temporal map scenario

Phenomenon:

Place:

Audience:

Temporal unit: hours / days / years / decades / events

Data type: discrete snapshots / continuous process / route / projection

Primary temporal pattern to reveal:

Static alternative that might work:

Motion risk:

Accessibility concern:

PROCEDURE

Part 1 - Decide Whether Animation Earns Its Place ~25 min

Evaluate whether this temporal map should be animated, shown as small multiples, controlled by a time slider, or presented as static snapshots. Explain what animation would reveal that static design might obscure, and what animation could distract from or misrepresent.

Scenario:

[PASTE]

Mini-deliverable

Write an animation justification. If the answer is no, say no and design a static alternative.

PROCEDURE

Part 2 - Identify Temporal Variables ~30 min

Create a temporal design brief using animation variables: duration, rate of change, order, display date, frequency, and synchronization. For each variable, specify the design decision and how it supports interpretation.

Scenario:
[PASTE]

Temporal variable	Specification	Interpretive purpose	Risk if wrong
Duration	Example: Last 30 days	Example: Show recent change	Example: Could overstate certainty
Rate of change	Example: Last 30 days	Example: Show recent change	Example: Could overstate certainty

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

PROCEDURE

Part 3 - Choose Stop-Frame or Smooth Transitions ~25 min

Decide whether this map should use stop-frame transitions or smooth transitions. Explain whether the underlying data represent discrete snapshots or a continuous process. Identify what false temporal structure the wrong transition type would imply.

PROCEDURE

Part 4 - Specify Temporal Controls and Legend ~30 min

Design temporal controls and a temporal legend for this map. Include play/pause, slider or scrubber behavior, speed controls if needed, loop behavior, reset behavior, date/year display, progress indicator, and where the temporal legend should sit relative to the map. Do not allow autoplay unless you justify it.

PROCEDURE

Part 5 - Add Motion Constraints and Accessibility ~25 min

Write non-negotiable motion constraints. Include: no autoplay on page load, no automatic looping, animation only on explicit state change, maximum total runtime, one major moving element at a time, pause/stop controls, and prefers-reduced-motion behavior that replaces motion with instant state changes.

Accessibility

Reduced-motion support is not optional courtesy. It is part of responsible temporal design.

PROCEDURE

Part 6 - Build the Animation Specification ~30 min

Compile my decisions into a production-ready Animation Specification. Include:

1. animation justification
2. static alternative considered
3. data temporal structure
4. stop-frame or smooth transition choice
5. duration, rate, order, display date, frequency, synchronization
6. controls
7. temporal legend
8. motion constraints
9. reduced-motion fallback
10. legend updates and class consistency
11. human review checklist
12. default animation behaviors to avoid

Write this as a concise professional specification.

PROCEDURE

Part 7 - Run the Human-in-the-Loop Review ~20 min

Critique this Animation Specification. Answer:

- Does motion explain something static maps cannot?
- Can a first-time user understand what changes without instructions?
- Is the temporal legend visible and synchronized?
- Does motion stop when it should?
- Would the animation fatigue a user after three views?
- What should be removed or simplified?

Submission ~20 min

- Temporal scenario brief
- Animation justification or static alternative
- Temporal variables table
- Stop-frame vs smooth transition decision
- Temporal controls and legend plan
- Motion constraints and accessibility rules
- Final Animation Specification
- Human-in-the-loop review
- 400-600 word reflection on when motion clarifies and when it distracts