STRETCHLEARN · WORKBOOK

Whiteboard Animation — Workbook

This workbook turns the course into a repeatable production system you run on every explainer. Each section maps to a course module: you will pin down a brief and write a word-budgeted script, convert it into a numbered shooting script and storyboard with a licensed asset list, build and pace the animation in VideoScribe and Manim, then record voiceover, render to spec, and quote and invoice the work. Fill the templates as you make a real video so that within a few projects you have a tested script-to-storyboard sheet, an asset and licensing register you trust, a pacing method, and a delivery and pricing checklist, plus a record of which timings, tools, and rates actually hold up with clients.

From Brief to Script

Capture the brief, fix the runtime with a word budget, and write a paced problem-solution script that gives every later stage something to draw.

Worksheet: Project Brief and Word Budget

Fill this once with the client before writing a single line of script. The target runtime sets your word ceiling, and the word ceiling controls every later stage, so agree these numbers first.

Client and project name

One-sentence goal of the video (what the viewer should do or understand)

Primary audience (who they are and what they already know)

Single call to action (one only)

Target runtime in seconds

Word ceiling (target seconds divided by 60, times 150)

Platforms and aspect ratios needed (16:9 / 1:1 / 9:16)

Tone in three words

Hard deadline / delivery date

Exercise: Draw-the-Abstraction Drill

Take your draft script and find every abstract phrase that has no obvious picture. For each one, rewrite it into a concrete, drawable noun or scene. This is what makes a script storyboard-ready.

• Which three lines in your draft contain abstractions a viewer could not picture (e.g. suboptimal retention, synergy, efficiency)?

• What concrete object or scene will you draw for each one instead (e.g. a leaking bucket of customers for churn)?

• Read the whole script aloud and time it: how many seconds does it run, and is that under your target?

• Where did you stumble reading aloud, and how will you simplify that sentence so the narrator does not stumble too?

Checklist: Script Sign-Off Check

[ ] Word count is at or under the ceiling for the target runtime
[ ] Opens by naming the viewer's problem within the first ten seconds
[ ] Follows a clear problem, agitate, solve, prove-and-act spine
[ ] Every sentence carries one idea and can map to one drawing
[ ] Filler words cut (just, really, in order to, the fact that)
[ ] Ends on exactly one call to action
[ ] Read aloud end to end with no stumbles
[ ] Client has approved the script in writing before storyboarding

Storyboarding and Hand-Drawn Vector Assets

Turn the approved script into a numbered shooting script and storyboard, then plan, draw, and license every asset before you animate.

Worksheet: Two-Column Shooting Script Row

Complete one of these for each row of your script (copy the block as many times as you have lines). This is the contract between the words and the pictures and what you hand your narrator.

Row number (matches the storyboard panel)

Voiceover line, verbatim

Stressed word the key drawing must land on

Asset name in CAPS (matches the asset register, e.g. BUCKET_LEAK)

Motion type (draw / slide-in / move / erase-and-replace)

Camera move into this panel (none / pan / zoom)

Estimated duration for this row in seconds

Exercise: Canvas-Map Planning Drill

Treat the whole whiteboard as one big canvas the camera moves across, not a stack of slides. Sketch where everything lives before you draw final art.

• On a single sheet, where will the problem, the solution, and the proof each sit on the canvas (left, center, right)?

• Where does the camera pan or zoom, and in what order does it visit the canvas?

• At which point does the board get too busy, so you need to erase or pan to fresh space?

• When you zoom out at the end, do the scattered drawings still compose into one coherent picture?

Checklist: Asset and Licensing Check

[ ] Every shooting-script row has a matching storyboard panel, numbered identically
[ ] One stroke weight and one drawing style chosen and held across all assets
[ ] Custom assets saved as SVG with paths ordered in the draw sequence you want
[ ] Sourced assets restroked to match your stroke weight
[ ] Every asset logged in the register with source and license
[ ] No CC BY-NC or unlicensed assets used in a paid deliverable
[ ] Required attributions recorded, even for CC0
[ ] Per-row durations totalled and reconciled to the target runtime

Animating with VideoScribe and Manim

Build and pace the animation in VideoScribe, add data and math sequences in Manim, and assemble everything in one editor at one spec.

Worksheet: VideoScribe Element Timing Plan

Fill one row per on-canvas element so you set draw, pause, and transition times on purpose rather than accepting defaults. Match each draw to the stressed word from your shooting script.

Element / asset name

Stressed word it must complete on

Draw time in seconds

Pause time in seconds (0.5 to 2 typical)

Transition time in seconds (0.5 to 1 typical)

Motion (draw / move-in / morph)

Notes on whether it lands on the word in preview

Exercise: Manim Sequence Plan

Plan one data or math sequence you will build in Manim before writing code. Specify each mobject, its animation, and its duration so the render lands exactly as designed.

• What is the single data or math idea this sequence must show (an equation, a graph, a transformation)?

• List each mobject in order (Axes, line graph, MathTex equation, label) and the animation for each (Create, Write, Transform, FadeIn)?

• What is the duration in seconds for each step, and what do they total?

• How will you match the look to the whiteboard (white background, black strokes, marker-style font, same frame rate)?

Checklist: Assembly Consistency Check

[ ] One frame rate (24 or 25 fps) used in VideoScribe, Manim, and the timeline
[ ] One resolution (1920 by 1080) across every tool
[ ] Background white and strokes black matched across VideoScribe and Manim so cuts are invisible
[ ] VideoScribe rendered in scene-sized chunks for easy revisions
[ ] Manim sequences reserved for math and data, not illustrated story beats
[ ] All MP4 exports laid on the editor timeline in script order
[ ] A short test render reviewed before the full render
[ ] Any After Effects polish is purposeful, not rescuing weak pacing

Audio, Delivery, and the Client Business

Record and sync voiceover, mix music and sound design, render to delivery spec, and quote, invoice, and run the project professionally.

Worksheet: Delivery Spec and Versions

Define exactly what you will hand over before you render. Agree aspect ratios at the storyboard stage, because a wide board does not crop cleanly to vertical.
Master format (H.264 MP4, 1920x1080, project fps)

Bitrate target (10 to 20 Mbps for crisp line art)

Versions and aspect ratios to deliver (16:9 / 1:1 / 9:16)

Voiceover source (self-recorded / hired artist + name)

Music source and license (Epidemic Sound / Artlist / YouTube Audio Library)

Are project source files included? (Y/N — usually a paid extra)

Review tool used (Frame.io / Vimeo Review)

Number of revision rounds included

Exercise: Voiceover Sync and Mix Drill

Lay the final voiceover as the master track, then sync picture to it and balance the mix. Test audio and picture separately to catch problems each pass.
• Does each key drawing complete on its stressed word, with the draw started a beat early so it finishes on the word?

• Watch the cut with your eyes closed: is the voiceover clear, free of room echo and hum, and consistent in

level?

• Watch it muted: does the picture read and pace well without the audio carrying it?

• Are the voice and music balanced (voice roughly -3 to -6 dB, music ducked to about -18 to -22 dB under speech)?

Worksheet: Project Quote Builder

Price the whole pipeline, not just the render hours. Estimate hours per stage from your own past projects, then sanity-check the total against market rates before sending.

Deliverable summary (runtime, resolution, aspect ratios, number of versions)

Scripting hours x rate

Storyboard hours x rate

Asset creation hours x rate (and number of custom assets)

Animation hours x rate (VideoScribe + Manim)

Audio: voiceover, sync, music, sound design hours x rate

Revision rounds included and price per extra round

Deposit (commonly 50%) and payment terms (net 14 / net 30)

Quoted project total

Checklist: Pre-Delivery and Get-Paid Check

[ ] Watched start to finish at full resolution for stutters, pops, and timing drift
[ ] Every on-screen word spell-checked
[ ] Audio levels confirmed: voice clear, music ducked, no clipping
[ ] Call to action correct and matching the brief, including any URL or phone number
[ ] Every asset licensed and logged in the register
[ ] Exported to the agreed master spec and all required versions
[ ] Deposit received before scripting began
[ ] Final high-resolution files released only on final payment; watermarked cut shown until then

Your Action Plan

1. Fill the Project Brief worksheet with the client and lock the target runtime and word ceiling before writing.
2. Write the script to a problem, agitate, solve, prove-and-act spine, cut it to the word ceiling, and get it approved in writing.
3. Convert the script into a numbered two-column shooting script, tagging the stressed word, asset name, motion, and duration for each row.
4. Storyboard one panel per row, plan the canvas as a map with camera moves and erase points,

and total the durations to your runtime.
5. Draw custom SVG assets in path order and source the rest from CC0 and licensed libraries, logging every asset in the register.
6. Build the scene in VideoScribe, setting draw, pause, and transition times per element so key drawings land on their stressed words.
7. Animate any data or math sequences in Manim to a white-on-black whiteboard look at the same frame rate, and render them out.
8. Record or commission the voiceover, lay it as the master track, sync the picture to it, and mix music and sound design under the voice.
9. Assemble in one editor at one spec, render the master and platform versions, and run reviews in defined rounds on a review tool.
10. Run the pre-delivery quality pass, then deliver against the signed quote, releasing final files on final payment with an itemized invoice.