

Green Screen & Chroma Key Production — Workbook

This workbook turns the course into reps you can do on your own set. You will plan a two-zone lighting build, log exposure and scope readings, key the same shot in DaVinci Resolve and Premiere Pro, and run a final quality-control pass. Fill the templates with your real numbers so each shoot teaches the next one.

Lighting and Shooting a Keyable Green Screen

Plan and verify a flat green screen and a cleanly separated, correctly exposed subject.

Exercise: Two-Zone Lighting Walkthrough

Physically build (or sketch to scale) a green screen setup with the backdrop and subject lit as two independent zones. Then evaluate it on a scope.

- Diagram your screen lights: position, angle, distance, and dimmer level for each, and note where their beams overlap.

- Measure subject-to-screen distance and explain how it reduces spill in your specific room.

- Walk a gray card across the screen while watching a waveform and record the brightest and darkest green readings in IRE or stops.

- State one change you made to bring the spread within 0.3 stops, and what it cost you (e.g., a light moved, a dimmer lowered).

Worksheet: Camera and Exposure Settings Log

Record the exact capture settings for one green screen take so you can reproduce or diagnose it later. Leave any reading you have not measured blank.

Camera / recorder model

Resolution and frame rate

Shutter speed

ISO

Aperture

White balance source (gray card / Kelvin)

Codec and bitrate

Chroma subsampling (4:2:0 / 4:2:2 / 4:4:4)

Bit depth (8 / 10 / 12)

Green level on waveform (IRE)

Vectorscope green cluster note

Subject-to-screen distance

Checklist: Pre-Roll Capture Checklist

- Screen is flat and taut with no visible wrinkles, sag, or seams
- Two matched soft lights at 45 degrees, beams overlapping at center, feathered
- Gray-card sweep confirms green spread within 0.3 stops on the waveform
- Green sits around 45 to 55 IRE, saturated but not clipping
- Subject is 1.8 to 2.5 meters in front of the screen
- Three-point subject light set with a backlight for rim separation
- Key direction matches the intended background plate
- Flags keep subject light off the screen and screen light off the subject
- White balance set off a gray card under the subject key, not the screen
- Recording at the highest available subsampling, bit depth, and bitrate

Keying in DaVinci Resolve

Pull and refine a clean matte on the Color page and in Fusion, then despill.

Exercise: Color Page Versus Fusion Key-Off

Take one green screen clip and key it twice in Resolve: once with the Color page 3D Keyer and once with the Fusion Delta Keyer. Judge both on the matte view.

- Describe your eyedropper sampling strokes on the Color page and which missed-green areas needed extra strokes.

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- In Fusion, note where a garbage matte or a holdout matte was needed and why.

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- Compare the two mattes at 100 percent zoom around the hair and one fast-moving edge: which held up better and why?

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- Decide which pipeline you would ship for this shot and justify the choice in one sentence.
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Worksheet: Matte Refinement Settings Record

Log the control values that produced your best Resolve matte so you can recreate it. Leave unused controls blank.

Keyer used (Color 3D Keyer / Fusion Delta Keyer)

Clean Black amount

Clean White amount

Clip Black value

Clip White value

Edge blur / softness

Matte shrink amount

Despill amount

Garbage matte used (yes/no)

Holdout matte used (yes/no)

Light wrap amount

Checklist: Clean Matte Verification

- Subject reads solid white on the matte view with no internal holes
- Background reads solid black with no gray haze
- Gray remains only at true soft edges and hair
- Despill applied until the green rim disappears, then stopped
- Skin tone is neutral, not pushed magenta by over-despill
- Matte shrunk by half a pixel to a pixel to hide fringe
- Light wrap added so background color feathers onto the subject rim
- Edges judged over the real plate, never over black

Keying in Premiere Pro

Build a controllable Ultra Key, clean the matte and spill, then color-match to the plate.

Exercise: Ultra Key End-to-End

Key the same clip in Premiere with Ultra Key, refine it, and integrate it with the plate. Work entirely in the Alpha Channel view until the matte is solid.

- Which Setting preset (Default, Relaxed, Aggressive) did you start from, and why for this subject?

- Record the Matte Generation moves you made and what each one fixed.

- Explain how you set Spill Suppression so the green left without turning skin magenta.

- Describe your Lumetri match: what you changed in exposure, white balance, and contrast to make the subject belong to the plate.

Worksheet: Ultra Key Parameter Sheet

Capture the Ultra Key and cleanup values for one finished shot. Leave anything you did not touch blank.
Setting preset

Key Color sampled (note where on the screen)

Transparency

Highlight

Shadow

Tolerance

Pedestal

Choke

Soften

Spill Suppression amount

Lumetri exposure / temperature / contrast notes

Checklist: Premiere Delivery-Ready Check

- Background plate is on the track beneath the green clip
- Output toggled to Alpha Channel while tuning the matte
- Matte is solid white subject, solid black background, soft only at edges
- Choke set just enough to remove green fringe without crunching edges
- Spill Suppression neutralizes the green rim with skin tone intact
- Lumetri Color added above Ultra Key and matched to the plate
- Matching grain added across the composite to unify texture
- Output set back to Composite for a final look over the plate

Compositing, Integration, and Troubleshooting

Integrate foreground and background convincingly, then diagnose failures and pass QC.

Exercise: Five Integration Cues Audit

Take your best composite and deliberately check it against the five integration cues, fixing each in turn.

- Scale and perspective: do the eyeline, horizon, and camera height of subject and plate agree? Note any reframe.

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- Light direction and color: confirm the subject's key side matches the plate's apparent light source.

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- Contrast and black level: how did you match the foreground shadows to the plate?

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- Atmosphere, contact shadow, and grain: what did you add to ground the subject and unify texture?
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Worksheet: Key Failure Diagnosis Log

For each failure you encounter, record the symptom, its capture root cause, and the fix you applied. Leave rows blank if not encountered.

Failure type (halo / muddy hair / holes / chatter / floating)

Where it appears in the frame

Suspected capture root cause

Post fix applied

Did the fix damage another area? (yes/no + note)

Lighting change to make next shoot

Checklist: Final Quality-Control Pass

- Whole shot scrubbed at 100 percent zoom, not fit-to-window
- Edges watched through motion, not just on a still frame
- Key tested over both a bright and a dark background
- Temporary high-saturation probe used to reveal hidden green, then removed
- Waveform and vectorscope confirm legal levels with no clipping
- Contact shadow and light wrap reviewed at full speed
- Exported file spot-checked at the hardest edges and fastest motion
- Master saved with graded, ungraded, and matte versions archived

Your Action Plan

1. Build the two-zone lighting setup and confirm the green spread is within 0.3 stops on a waveform.
2. Lock camera settings for clean edges: low ISO, correct shutter, gray-card white balance, highest available subsampling and bitrate.
3. Add backlight and 1.8 to 2.5 meters of subject separation to minimize spill before recording.
4. Record one calibration take and log every setting on the Camera and Exposure Settings sheet.
5. Pull a key in DaVinci Resolve, judging it on the matte view, and refine with Clean Black/White and despill.
6. Pull the same shot in Premiere Ultra Key, working in the Alpha Channel view until the matte is solid.
7. Apply spill suppression and then color-match the foreground to the plate with a grading tool.
8. Integrate the layers: match perspective, add a contact shadow and light wrap, and unify grain.
9. Run the failure-diagnosis log on any defects and convert each into a lighting note for next time.
10. Complete the final QC pass at 100 percent in motion, then spot-check the exported file before delivery.

