CQE Role■Playing Scenes Pack — v1.0

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How to use this pack

Pick any scene, lay out the props, and follow the blocking. Each scene ends with a ledgerable artifact and a tiny 4■bit receipt. Use the worksheets to standardize record■keeping. The geometry (octet, parity, mirror) governs correctness; your labels stay provisional until committed.

Scene 0: Orientation: The CQE Spine Live

What it teaches (learning targets)

• See the full loop: Octet → Mirror → Δ■lift → Strict → 4■bit receipts.
• Understand stand■ins (tokens) vs. form (geometry) vs. meaning (labels).
• Learn how a 2■minute paper run creates a reproducible ledger row.

Props & setup

Room	One table, 8 colored pens, tape wall for overlays.
Paper kit	Octet sheet, DNA■10, 4■bit sticker, ledger page.
Instruments	None (paper■only).
Safety	N/A

Blocking (5–15 minutes)

■■ Pick a tiny question (≤1 min).
■■ Mark 8 views (colored boxes), set a palindromic REST.
■■ Run a forward↔inverse mirror; circle mismatches (red).
■■ Write a Δ■lift (local identity) to fix one mismatch; re■mirror.
■■ Tighten one metric (strict ratchet), shade a 4■bit receipt; log ledger.

Ledger hook (what gets recorded)

— form_id, octet map, mirror tolerance, Δ■lift note, strict threshold, 4■bit.

Hand■ins (artifacts to keep)

✓ Filled octet, mirror ticks, Δ■lift card, 4■bit stickered ledger row.

Debrief (2–3 prompts)

■ Which view dominated debt?
■ Was the Δ■lift local and monotone?
■ Would a different mirror have failed?

Scene 1: n=1→n=5: The Hinge that Forces the Octad

What it teaches (learning targets)

• n=1→2 enforces first parity lane; n=2→3 sets up the second lane; n=4 palindromic rest; n=5 forces 8 inequivalent insertions.
• Why the octad is discovered (not assumed) and how it governs later structure.

Props & setup

Room	Grid board (4×4), parity markers.
Paper kit	n=1→4 worksheets, insertion checklist, class bins (8).
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Build n=1 rest, show first parity choice at n=2.
■■ Complete n=3, point to latent 4■cell cross.
■■ Canonicalize n=4 palindrome (up to pose).
■■ Enumerate 16 insertion tests for ‘5’; bucket into 8 legal classes; note 1 palindromic + 7 invariant.

Ledger hook (what gets recorded)

— Octad class tag, pose, tolerance; 4■bit commit when 4 views pass.

Hand■ins (artifacts to keep)

✓ Checked grid, class map (8), receipt.

Debrief (2–3 prompts)

■ What would ‘<8 classes’ break downstream?
■ How does rotation act on class labels?

Scene 2: Mirror & Δ■Lift Clinic (Bug■to■Fix)

What it teaches (learning targets)

• Turn a one■way mismatch into a local repair with receipts.
• Practice mirror pairs (FFT↔iFFT; encode↔decode; simulate↔measure).

Props & setup

Room	Whiteboard, printed spectra pair or time series twin.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Pick the forward pipeline; write its inverse.
■■ Run both; mark delta windows; choose one Δ■lift from the cookbook; re■run mirror; record debt drop.

Ledger hook (what gets recorded)

— Mirror tolerance, Δ■lift id, before/after OPE/FCE, strict update.

Hand■ins (artifacts to keep)

✓ Before/after overlay with red fix marks, 4■bit row.

Debrief (2–3 prompts)

■ Was the Δ local? Did it generalize to a second view?

Scene 3: Octet Coverage for ML (A/B→Octet)

What it teaches (learning targets)

• Generalize A/B to 8 views; prevent winner■only bias.
• Record receipts across slices (metrics × slabs).

Props & setup

Room	Cards for 8 data slices; metric stickers.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ List 8 materially independent views (slices or metrics).
■■ Require ≥4 pass post■Δ■lift before commit; log 4■bit.

Ledger hook (what gets recorded)

— Views passed, metric triplet, slab size, commit.

Hand■ins (artifacts to keep)

✓ Octet pass grid, receipts.

Debrief (2–3 prompts)

■ Which 4 were necessary and sufficient?

Scene 4: Construction■A Loom: E8 and Leech on Paper

What it teaches (learning targets)

• Parity checks → membership; half■shift glue → evenness/unimodularity.
• Visualize 8■twine E8 and 24■twine Leech masks with octads.

Props & setup

Room	Foam board, pegs, 8 & 24 strings, clip set.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Lay code parity rows; mark syndrome pad.
■■ Build E8 halves; overlay mirror; demonstrate root reflections.
■■ Mask octads for a Leech slice; show legality via parity.

Ledger hook (what gets recorded)

— Code id, modulus, glue vector, octad layout, legality receipts.

Hand■ins (artifacts to keep)

✓ Photo of loom, mask sheet, ledger row.

Debrief (2–3 prompts)

■ What fails if glue parity flips?

Scene 5: Sidecar Sprint: 4 Rails in 20 Minutes

What it teaches (learning targets)

• Parallelize OPTICS/THERMAL/POLAR/MATH on same form; swap token packs only.
• Converge via receipts; annihilate non■working cheaply.

Props & setup

Room	4 stations; shared octet; sticky token labels.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Run each rail: tokens→octet→mirror→Δ→strict→4■bit; copy receipts to master ledger.

Ledger hook (what gets recorded)

— 4 receipts, shared form_id, per■rail thresholds.

Hand■ins (artifacts to keep)

✓ 4 station sheets; master ledger row.

Debrief (2–3 prompts)

■ Which rail constrained the others? Why?

Scene 6: Two■Scientist Theorem■Card Resolution

What it teaches (learning targets)

• Resolve disputes with claim/evidence/Δ■lift/receipt cards.
• Preserve minority view as Non■Working breadcrumb with hash.

Props & setup

Room	Theorem cards, claim wall, mirror worksheet.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Each writes claim+assumptions; test under shared mirror; record receipts; promote passing; archive failing with hash.

Ledger hook (what gets recorded)

— Claim ids, mirror pass/fail, Δ■lift ids, receipts.

Hand■ins (artifacts to keep)

✓ Card stack, mirror sheet, ledger snippet.

Debrief (2–3 prompts)

■ Did any claim survive only after a Δ■lift?

Scene 7: 8■Person Table with Neighbor Lanes

What it teaches (learning targets)

• Role mesh, not silos: 8 seats, 2■bit lanes, neighbor hand■offs.
• How a 10■minute cadence creates stable throughput.

Props & setup

Room	Round table, role badges, coordination board.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Assign roles; run 2 cycles; enforce neighbor receipts; rotate seats; compare throughput.

Ledger hook (what gets recorded)

— Seat map, cycle count, debt burn, commits.

Hand■ins (artifacts to keep)

✓ Coord board photo, ledger rows.

Debrief (2–3 prompts)

■ Which neighbor interface was hottest?

Scene 8: Card■Deck CQE + Lab Stations

What it teaches (learning targets)

• Paper■only run with decks, sticky tokens, and quick metrics.
• Pause→measure→resume loop without losing context.

Props & setup

Room	Decks, sleeves, sticky notes, cheap sensors (thermometer, lux meter, calipers).
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Map aces→primitives, 2–8 synthesis, 9 full idea, 10 parity twin; face cards = observers; jokers = Cartan links; run octet/mirror/Δ/strict; pause for a measurement; re■enter.

Ledger hook (what gets recorded)

— Deck id, card set, measurement token, 4■bit commit.

Hand■ins (artifacts to keep)

✓ Card photo, metric sheet, ledger.

Debrief (2–3 prompts)

■ What metric flipped a decision?

Scene 9: Hypercube→Toroidal Chamber (4■bit Hubs)

What it teaches (learning targets)

• Wrap a tesseract into the torus; locate 4■bit hubs; see 1→64→1 codec sketch.
• Understand why geometry, not taste, governs the shell.

Props & setup

Room	Printed nets, tape, colored thread for hubs.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Assemble net; mark parity lanes; identify 4 hubs; trace two■slice mid (n=32); note how octad sits on faces.

Ledger hook (what gets recorded)

— Pose, hub ids, mid■slice tags, 4■bit example.

Hand■ins (artifacts to keep)

✓ Assembled model photos, notes, ledger.

Debrief (2–3 prompts)

■ What would break if hubs were 3 or 9?

Scene 10: Sound & Subharmonics Viewer (Cartan Hot■Zones)

What it teaches (learning targets)

• Map harmonic stack to octet; subharmonics to Cartan ‘outside’ nudges.
• Use beats as a quick hot■zone detector for Δ■lifts.

Props & setup

Room	Tone generator app, small speaker, paper spectrogram.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Play two tones; mark constructive/destructive cells; label subharmonics; connect to Δ■lift candidates; log a 4■bit after retune.

Ledger hook (what gets recorded)

— Tone pair, beat freq, Δ■lift, receipt.

Hand■ins (artifacts to keep)

✓ Spectrogram sheet, receipt.

Debrief (2–3 prompts)

■ Which Δ■lift removed the beat?

Scene 11: Primordial→EM→Thermo: Meaning■Token Safety

What it teaches (learning targets)

• Bind tokens late; redact dangerous meaning; still keep form receipts.
• Practice stand■in overlays for sensitive domains.

Props & setup

Room	Red/blue pens; redaction tape; safety policy sheet.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Run with stand■ins; mark any sensitive tokens red; keep octet/mirror/Δ/strict; commit with redacted receipts.

Ledger hook (what gets recorded)

— Stand■in map, redaction count, hash■only attachments.

Hand■ins (artifacts to keep)

✓ Redacted ledger row, safe receipts.

Debrief (2–3 prompts)

■ Did redaction block reproducibility? How fixed?

Scene 12: Global Viewers: 8×8 + 4×4×4×4 + Parity Shell

What it teaches (learning targets)

• Add viewers without changing work: local 8×8; meso 4×4×4×4; parity 2×2×2×2.
• Find hot■zones to focus Δ■lifts first.

Props & setup

Room	Viewer templates, highlighters.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Stamp local/meso/parity viewers on the same run; circle convergent hotspots; choose Δ■lifts accordingly; compare debt drop.

Ledger hook (what gets recorded)

— Viewer indices, hotspot ids, Δ■lift chosen, receipts.

Hand■ins (artifacts to keep)

✓ Viewer overlays, ledger row.

Debrief (2–3 prompts)

■ Which viewer best predicted success?

Scene 13: Not Lattice Flattery: Governance by Geometry

What it teaches (learning targets)

• Why E8/Leech/Monster emerge from constraints; not taste.
• How parity+glue legality forces the shell.

Props & setup

Room	Constraint cards, counterexample wall.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Attempt to break with <8 at n=5; fail; test glue parity flip; show legality break; log falsifiers kept.

Ledger hook (what gets recorded)

— Falsifier ids (F1–F4), outcomes, receipts.

Hand■ins (artifacts to keep)

✓ Counterexample log, ledger.

Debrief (2–3 prompts)

■ Which constraint felt most ‘non■negotiable’?

Scene 14: Sandbox Red/Blue: Safety, Redaction, Receipts

What it teaches (learning targets)

• Operate dual■rail safety: blue = open; red = internal only.
• Always leave a 4■bit and a hash trail.

Props & setup

Room	Two clipboards (blue/red), hash stickers.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Duplicate run red/blue; redact red sheet; publish blue with hashes; verify reproducibility by a peer.

Ledger hook (what gets recorded)

— Blue/red pair id, hashes, receipts.

Hand■ins (artifacts to keep)

✓ Blue packet, red sealed packet.

Debrief (2–3 prompts)

■ Was any crucial info missing on blue?

Scene 15: Capstone: Three■Track Non■Toy (Optics, DNA, Finance)

What it teaches (learning targets)

• Run three independent rails on one shell; compare receipts; compress meanings.
• Show that form stays fixed while semantics swap.

Props & setup

Room	Three stations; octet master; metrics per rail.
Paper kit	
Instruments	
Safety	N/A

Blocking (5–15 minutes)

■■ Each rail performs octet/mirror/Δ/strict; commit or annihilate; compress repeating Δ■lifts into a meaning pack; promote anchor.

Ledger hook (what gets recorded)

— Rail receipts, meaning pack v#, anchor id.

Hand■ins (artifacts to keep)

✓ 3 receipts; promoted pack doc; anchor ledger row.

Debrief (2–3 prompts)

■ Which Δ■lift generalized across rails?

Worksheet – Octet Overlay

- ■ H1–H8 views named and colored
- ■ Palindromic REST documented
- ■ Pass/fail marks; debt notes

Notes:

Worksheet – Mirror Test

■ Forward pipeline defined

■ Inverse pipeline defined

■ Mismatch windows circled

■ Δ■lift candidates listed

Notes:

Worksheet – Δ■lift Cookbook

■ Local identity name

■ Preconditions

■ Expected debt drop

■ Safety notes (side effects)

Notes:

Worksheet – Strict Ratchet

- Metric name & unit
- Current threshold
- New (tighter) threshold
- Justification (evidence)

Notes:

Worksheet – 4■bit Receipt

■ OPE debt ok?

■ FCE reproduction ok?

■ Views≥4 passed?

■ Mirror within tol?

Notes:

Worksheet – Ledger Row

■ form_id

■ constructionA (code/modulus/glue)

■ automorphism id

■ octet map

■ DNA■10

■ thresholds (normal/strict)

■ receipts (4■bit + hash)

Notes: