

Red-Team Report

Could a student complete every task using only the materials supplied in the lesson package?

RELEASE DECISION Ready after automated file, reading, deck, document, build, and live-route checks pass.	DISCOVERY CORRECTION The cleft is visible from Lesson 1. Lesson 20 synthesizes isolated-versus-syndromic classification, cause model, and care.
Audit gates	

Gate	Release standard	Result
Durable idea	Every lesson names one 10-year takeaway and one of the four foundations.	PASS in authored package
Socratic sequence	Analogy image, observation questions, student rules, biology mapping, decision, defense, and handoff are present.	PASS in authored package
Closed loop	All required knowledge, evidence, definitions, visuals, and decision rules are inside the package.	PASS in authored package
Case integrity	Stable evidence IDs are used. No task requires invented or student-identifiable data.	PASS in authored package
Claim discipline	Each decision states what students may claim and what the evidence cannot prove.	PASS in authored package
Reading	Plain-language structured readings are supplied. Publication links are optional.	PASS in authored package
Alignment	Guided notes follow the deck roles and end by constructing the day's take-home.	PASS in authored package
Visual QA	Every lesson has separate analogy and biomedical illustrations with explicit educational labels.	PASS in authored package

Lesson-by-lesson dependency audit

#	Take-home	Analogy	Evidence IDs	Decision	Handoff
1	Day-one cleft care begins with a complete exam and clear, respectful communication.	The careful home inspector	D01-E1, D01-E2, D01-E3	Which response will you give, and which two evidence IDs make it the safest choice?	We saw and named Mateo's cleft, but 'a cleft' is not precise enough for a chart or a surgical plan. Exactly which structures are split, on which side, and how completely? We need the team's shared language for describing it.
2	A useful cleft description names the structures, the side, and the completeness as three separate choices.	A three-part mailing address	D02-E1, D02-E2, D02-E3	Choose the registry description and cite one evidence ID for each word that narrows the description.	We can describe Mateo's cleft exactly: complete, unilateral, left, lip and palate. But a precise description still does not tell us WHY. A cleft can travel alone, or it can be one clue to a bigger condition. Could Mateo's cleft be a sign of a larger syndrome?
3	A cleft is syndromic only when a pattern of additional findings supports that claim.	One warning light or a dashboard pattern?	D03-E1, D03-E2, D03-E3	Choose the most defensible chart phrase and explain why the other two go beyond the evidence.	We learned that a cleft can ride alone or come bundled with other features, so the only honest answer right now is 'we do not know yet, we have to check.' But 'check for a syndrome' is too vague to act on. Which specific syndromes must a cleft team actually rule out, and what red flags point to each one?
4	A red-flag checklist turns a broad syndrome question into specific findings that can be checked.	Airport screening uses named checks	D04-E1, D04-E2, D04-E3	Choose the next step and show how the red-flag evidence narrows, but does not close, the question.	We now have a checklist of red flags, and Mateo trips none of them on inspection. But a checklist you eyeball by hand can miss the quiet ones: a tiny deletion of DNA causes no obvious sign, and subtle features hide. How does the team make the syndromic-versus-isolated call rigorous, with an exam protocol and a test, instead of just a confident glance?
5	Testing is most useful when the history and exam create a question the test can answer.	Choose the right tool after you inspect the wall	D05-E1, D05-E2, D05-E3	Choose a testing plan, cite the case evidence, and state one thing your plan cannot rule out.	We sorted the exam and tests that separate a syndrome from a lone cleft, and Mateo's structured exam and testing point toward an isolated cleft. That workup takes time to complete, and meanwhile a two-day-old still has to eat. So how do we keep Mateo fed and growing while the rest of the picture comes together?
6	An open palate limits suction, so feeding support replaces suction with flow control and positioning.	A straw with a side hole cannot hold suction	D06-E1, D06-E2, D06-E3	Choose the discharge plan and connect each part to the evidence and pressure model.	We answered today's question: Mateo can be fed with the right bottle and position. But most is not all. A few cleft babies struggle not just to eat but to breathe, especially when the jaw is small and the tongue falls back. When is a cleft an actual airway emergency?
7	In Robin sequence, the small jaw lets the tongue fall back and block the airway; the palate gap itself is not the blockage.	A pillow blocks a narrow doorway	D07-E1, D07-E2, D07-E3	Choose the infant who needs escalation and trace the mechanism in order.	Mateo's airway is safe, his cleft is isolated, and feeding is handled. Step back: how common is a cleft like his, and in whom does it happen most?

#	Take-home	Analogy	Evidence IDs	Decision	Handoff
8	Epidemiology describes patterns in groups; it does not identify the cause of one child's cleft.	A weather map shows patterns, not one raindrop's cause	D08-E1, D08-E2, D08-E3	Write the two sentences and label which one is population-level and which one is patient-level.	Mateo's cleft fits the single most common pattern, which means it is not rare and not random. So what actually caused it: his genes, something in the pregnancy, or both?
9	Most isolated clefts reflect many small genetic and environmental influences crossing a developmental threshold.	Many small drops can fill a threshold cup	D09-E1, D09-E2, D09-E3	Choose the explanation and use all three evidence IDs to set the limits of the claim.	Mateo's cleft came from many small influences working together, not one fixable thing. So if no single cause can be removed, what is the actual plan for the next 18 years of his care?
10	Cleft care follows developmental windows, so the right action depends on what the child needs next.	A train schedule is built around connections	D10-E1, D10-E2, D10-E3	Choose the plan structure and place each evidence item in the correct time band.	We have an 18-year care plan for Mateo, but what do the operations on that plan actually fix? What do the surgeries accomplish clinically?
11	Lip repair restores form, while palate repair separates spaces and supports speech; different jobs require staged operations.	Repair the front door and the room divider for different reasons	D11-E1, D11-E2, D11-E3	Choose the explanation and match each evidence ID to the operation it supports.	We answered why the palate is repaired early to protect speech. But that raises a new question: how exactly does a repaired palate let Mateo make clear speech sounds, and what happens if it still does not seal well?
12	Clear pressure sounds need the soft palate to move upward and seal the mouth from the nose.	A pressure door must close before the pump works	D12-E1, D12-E2, D12-E3	Choose the next step and use the pattern across the three evidence IDs.	We answered how the palate lets Mateo make clear speech and what VPI is. But the same little muscles near the palate do another job: they help drain the middle ear. Mateo keeps getting ear infections and does not always turn to soft sounds. How do we protect his hearing?
13	Cleft-related middle-ear fluid can reduce hearing, so repeated hearing checks protect speech development.	A drain that does not open lets fluid collect	D13-E1, D13-E2, D13-E3	Choose the plan and explain why the newborn result does not cancel the new evidence.	We answered why the cleft palate threatens hearing and how the team protects it. But Mateo's first teeth are coming in, and his parents notice some are crooked and one looks unusually small. How do we care for his teeth and his bite over the years ahead?
14	Dental and orthodontic care is staged because teeth, bone, and facial growth change on different schedules.	Build the roadbed before aligning the lanes	D14-E1, D14-E2, D14-E3	Choose the staged plan and identify what happens now versus what waits for a developmental marker.	We answered why the cleft changes Mateo's teeth and bite and why dental care is staged. But now Mateo has a lot going on at once: surgeries, speech therapy, ear care, and dental visits. With all of that, how do we make sure the most basic thing is still on track, that he is actually growing and developing well overall?
15	Growth decisions come from trends across time, not one measurement on one day.	A movie shows change that a snapshot cannot	D15-E1, D15-E2, D15-E3	Choose the plan and describe the trend across all three evidence IDs.	We answered how the team keeps Mateo growing and developing well. His body and growth are well cared for. But a child is more than a body. Mateo and his parents face stares, worry, the stress of many appointments, and questions about how he will feel about himself. How do we support Mateo and his family beyond the body?

#	Take-home	Analogy	Evidence IDs	Decision	Handoff
16	Psychosocial care belongs in the treatment plan because health includes confidence, relationships, school, and family well-being.	A bridge needs support below the visible roadway	D16-E1, D16-E2, D16-E3	Choose the support plan and separate the evidence from assumptions about how Mateo feels.	We answered what Mateo's family needs beyond the body. But we have assumed his team will provide all of this. Does every child like Mateo actually get the same care, whether they are born in a big city, a rural town, or a low-income country?
17	Equal treatment is not always equitable care; the plan must remove the barriers that block access to the same health goal.	The same bridge is not equally reachable from every road	D17-E1, D17-E2, D17-E3	Choose the recovery plan and match each support to one documented barrier.	We answered that access is unequal, and that Mateo is fortunate to have a full team. But even with full access, the work is not finished. A repaired cleft is not a cured cleft. What problems can arise later for Mateo, even years after surgery, and how would the team catch them?
18	A repaired cleft still needs surveillance because speech, hearing, teeth, airway, and growth can change later.	Different smoke detectors guard different rooms	D18-E1, D18-E2, D18-E3	Build the routing plan and cite one evidence ID for each action.	We answered what can still go wrong and who catches it. But Mateo now needs a surgeon, a speech-language pathologist, an audiologist, an orthodontist, and more, all watching different things across many years. How does one team deliver all of this care without anything falling through the cracks?
19	A cleft team works when specialists share one plan, one record, and clear ownership across time.	An orchestra needs a shared score and a conductor	D19-E1, D19-E2, D19-E3	Choose the coordination plan and show where each evidence item changes the plan.	We answered how the team holds it all together: shared records, a coordinator, and continuity across 18 years. That completes the machinery of Mateo's care. So now, with everything from his first newborn exam to his lifelong team in hand, we can finally ask the biggest question of all: what is Mateo's complete clinical story, and what, after eighteen lessons of evidence, is his actual diagnosis?
20	Mateo's record supports an isolated, nonsyndromic cleft lip and palate with multifactorial risk and lifelong coordinated care.	A case conference weighs the whole evidence board	D20-E1, D20-E2, D20-E3, D20-E4	Choose the synthesis, cite at least three evidence IDs, and name one new finding that would require revision.	We answered the question we have chased since day one: Mateo has isolated, nonsyndromic cleft lip and palate, multifactorial, managed over a lifetime. But Mateo is not only the disease team's patient. The genetic, developmental, anatomical, and experimental teams have studied the same patient from their own angles. Five lenses, one Mateo, one diagnosis: bring your Disease Domain Report to the joint conference and see how your answer matches theirs.

Known limits and release receipts

- All patient imagery is explicitly educational illustration. No generated image is presented as microscopy, radiology, or a real clinical photograph.
- Typical care windows are educational examples. The site and documents state that real teams individualize timing and decisions.
- Population data describe groups and do not identify Mateo's individual cause.
- The strongest decision is the first option in the teacher guide, but students must defend it with the named evidence IDs.
- Automated validation receipts are stored with the release and are completed before publication.