



OHIO CSI FORENSIC DIVISION

UNIT 1 · MEDICAL INVESTIGATION · CASE STATIC

Period 1-2 · Investigator qualification file

FORM NO. CSI-1-D02-S
CASE NO. JH-26-0831-A
REV. 2026-27
PAGE ____ OF ____

FOR EDUCATIONAL USE

OHIO CSI FORENSIC DIVISION

DO NOT DISTRIBUTE ANSWER KEYS

WEBXAM BASELINE SHEET

Sep 4 · Investigation Day 2 of 18 · John Hay teacher-created practice

OFFICIAL

WEBXAM · DOMAIN 2 BIOTECHNOLOGY RESEARCH AND EXPERIMENTS · OHIO OUTCOME 5.8

VOCABULARY IN BOLD IS DEFINED WHERE IT FIRST APPEARS

INVESTIGATOR CODE (PERIOD + CODE, NOT YOUR NAME)	TEAM	DATE
		Sep 4, 2026

WHY TODAY MATTERS, IN PLAIN ENGLISH

SEC 00

Yesterday you took a practice version of **WebXam** and wrote a study plan. Today the numbers on that report stop being a grade and become **data**: facts you can chart, compare, and use to make a decision. Real biomedical labs do exactly this with a patient's first blood draw.

The first number is not the verdict. It is the **baseline**, the starting point every later number is measured against.

WEBXAM: Ohio's end-of-course test for this class. Its test code is Principles and Practice of Biomedical Technology (072110). Mr. Mendoza will announce the testing date. The pretest helps us plan practice. A score of **65 PERCENT** or higher passes.

DOMAIN: one big topic area the test is built from. This test has two. Domain 1, Handling, Preparation, Storage and Disposal, carries about 54 of every 100 points (lab safety, chain of custody, storing and preparing samples). Domain 2, Biotechnology Research and Experiments, carries about 46 (designing an investigation, collecting data, statistics, drawing conclusions). Today's sheet lives in Domain 2.

BASELINE: your first measurement, taken before any training. Its job is to show where you start so growth can be measured, not to label you.

Two rules from today's pack apply to every graph on this sheet. First, the axis starts where honesty starts: at zero. Second, match the graph to the question: a **bar graph** compares categories, a **line graph** shows change over time.

WORKED EXAMPLE, STEP BY STEP (SIMULATED PRACTICE DATA)

SEC 00A

SIMULATED report, not school results. Domain 1: 48 percent. Domain 2: 56 percent. Total: 52 percent. Target chosen: 70 percent by the end of November.

1. Record the baseline in the table with the unit percent. Points to the pass line for the total: $65 \text{ minus } 52 = 13$ points.
2. Draw the three bars to 48, 56, and 52 on an axis that starts at 0. The dashed line at 65 is the pass line. All three bars sit below it, so the one-sentence reading is: "My graph shows every score below the pass line, with Domain 1 lowest."
3. Graph the simulated class tally below. For 22 scores, count to positions 11 and 12; both fall in the 40 to 59 bin. This is the median bin, not an exact median.
4. Rate: (target minus baseline) divided by 12 weeks = $(70 \text{ minus } 52) \text{ divided by } 12 = 18 \text{ divided by } 12 = 1.5$ points per week.
5. October 2 checkpoint (week 4): baseline plus 4 times the rate = $52 + 4 \times 1.5 = 52 + 6 = 58$ percent. Plot the point at week 4, height 58.
6. Claim, evidence, reasoning: "My practice target is 70 percent by the end of November. My baseline is 52 and my line needs 1.5 points a week. I will do the Tuesday SDS retrieval and the Thursday portal practice set. Those target Domain 1, my lowest domain. The line assumes equal gain every week; if my October 2 score is under 55, I add a second retrieval day."

ABSENT OR NEW? USE THIS SIMULATED PRACTICE DATASET

SIMULATED pretest report: Domain 1: 44 percent. Domain 2: 60 percent. Total: 51 percent. These are practice values, not school results. Label each row "simulated."

SIMULATED class tally (22 practice scores): 0 to 19: 1. 20 to 39: 6. 40 to 59: 9. 60 to 79: 5. 80 to 100: 1.

Use these values and write "SIMULATED" at the top of Parts B and D. When your own report arrives, redo Parts B, C, and E with its reported scores on a second copy. Mark missing scores "not reported."

PART A · READ THE BRIEFING

SEC 01

Answer from the text above. Cite the sentence you used by copying its first three words in quotation marks.

PBS-U1-
D02-A1

Which domain carries more points, and by about how much? Cite the sentence.

PBS-U1-
D02-A2

In your own words, what is a baseline for, and what is it not for? Cite the sentence.

Copy only the scores your report provides. If it shows only a total, fill the Total row and write **not reported** for each missing domain score. Leave its points calculation and bar blank. Do not guess domain scores. If you use the complete practice dataset above instead, label every row **simulated**. Keep actual and simulated datasets separate.

PERCENT: a score out of 100. A score of 52 percent means 52 out of every 100 points.

ROW	YOUR SCORE (PERCENT)	POINTS TO THE PASS LINE (65 MINUS YOUR SCORE)	ACTUAL, SIMULATED, OR NOT REPORTED?
Domain 1: Handling, Preparation, Storage and Disposal			
Domain 2: Biotechnology Research and Experiments			
Total			

PBS-U1-
D02-B1

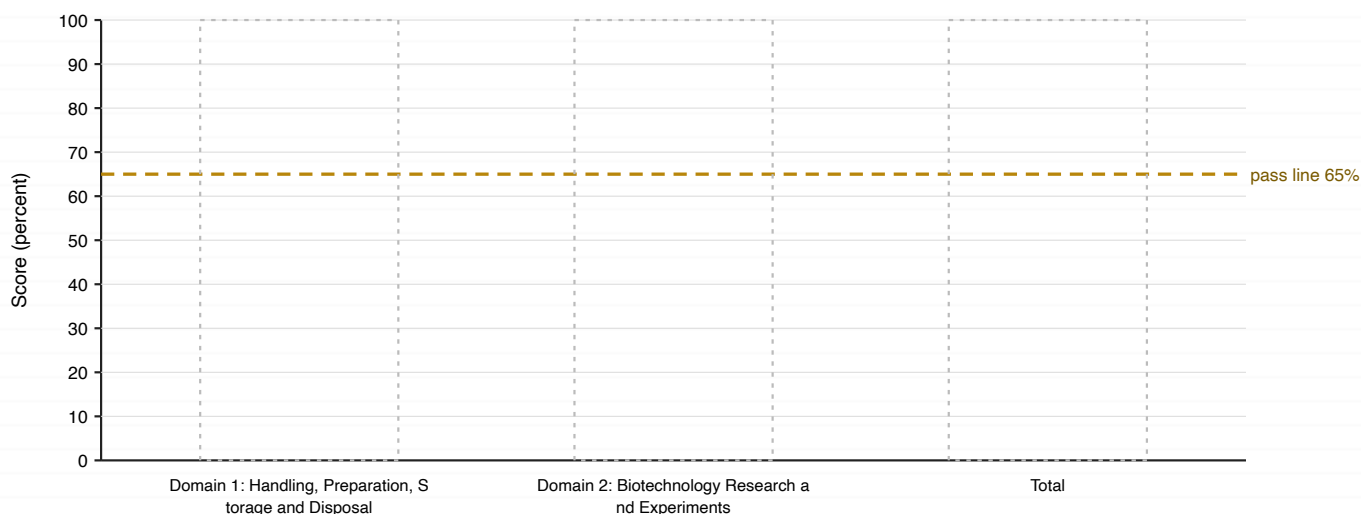
Table complete: scores use percent; sources are labeled; missing scores say "not reported." (Scored on the table itself; no writing needed here.)

PBS-U1-
D02-B2

Show the subtraction for the Total row. If your total is already above 65, write how many points above the line you are, and label it "above."

Draw a bar for each score you have. Leave a missing score blank, not zero. Shade each bar to match its score. The dashed gold line is the pass line at 65 percent, the **reference line** every bar is judged against.

REFERENCE LINE: a fixed value drawn on a graph so you can see at a glance whether each measurement is above or below it. On a lab report it is the edge of the reference range. Here it is the pass score.



PBS-U1-
D02-C1



Graph check: axis starts at 0, each bar is labeled, each bar's top matches the table, the pass line is used in your one-sentence reading of the graph. Write that sentence: "My graph shows ..."

PART D · GRAPH 2: THE CLASS PICTURE, NO NAMES

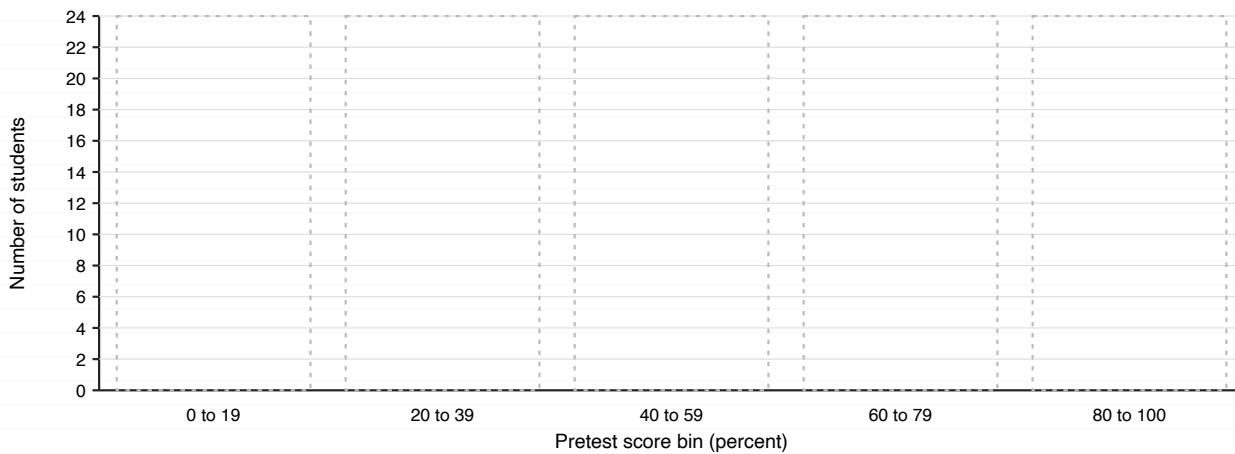
SEC 04

Mr. Mendoza will post a **tally** on the board: how many students scored in each bin. No names, no individual scores. Copy the tally, then draw the bars.

TALLY: a count of how many items fall in each group. The five labeled score bins turn a list of scores into a shape you can read.

HISTOGRAM: a bar graph of a tally. The bins sit in order along the bottom, so the shape shows where most people are and how spread out the class is.

BIN (PERCENT)	0 TO 19	20 TO 39	40 TO 59	60 TO 79	80 TO 100
Number of students					



MEDIAN: the middle ordered score, or the average of the two middle scores for an even count. Count through the tally to locate the middle position(s). If they fall in different bins, report both bins; an exact median needs raw scores.

RANGE: highest score minus lowest score. A grouped tally shows occupied bins, not the exact range. Exact mean, mode, median, range, and standard deviation need raw score values. Do not use bin midpoints as actual scores.

PBS-U1-
D02-D1

Histogram drawn: five bars, heights match the tally, axis starts at 0.

PBS-U1-
D02-D2

Middle-score bin(s): _____ Occupied bins: from _____ to _____. Show the count to the middle position(s). The occupied bins are not an exact range.

PBS-U1-
D02-D3

Mean or median: which summary number is fairer for this class picture, and why? (Hint from the pack: what does one very high or very low score do to a mean?)

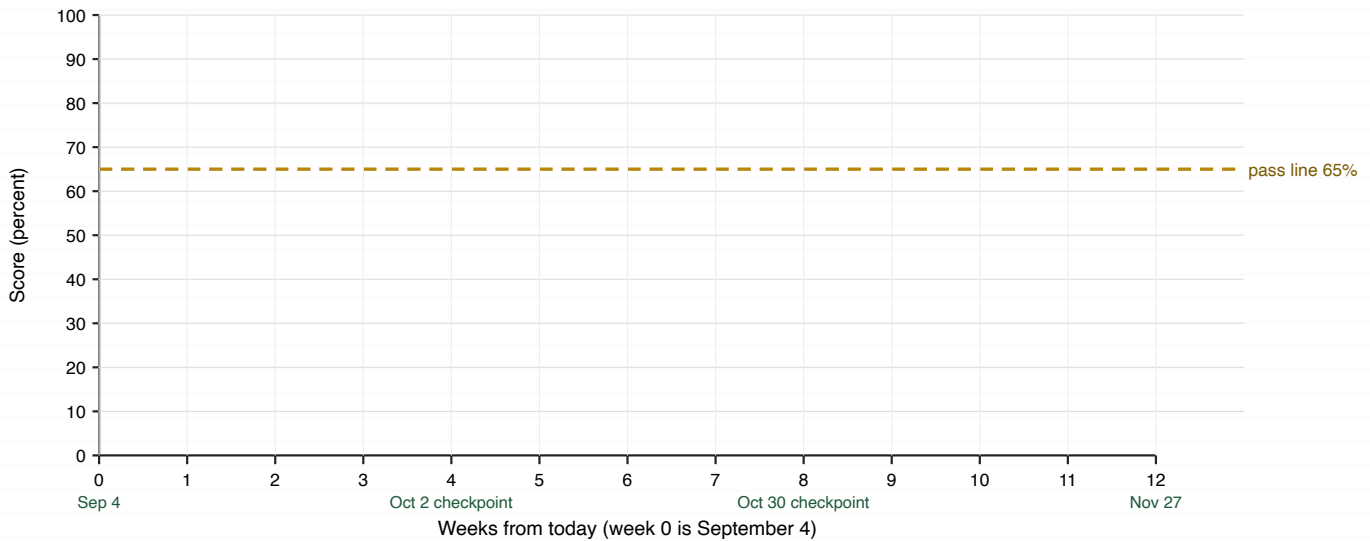
PART E · GRAPH 3: PREDICT YOUR GROWTH

SEC 05

Pick a **target**: the score you are aiming for at the end of November, at least 65. Plot your baseline total at week 0 and your target at week 12. Connect them with a straight line. That line is a **projection**: a plan drawn as if you gain the same number of points every week.

PROJECTION: a line that extends what you know today into the future under a stated assumption. Ours assumes equal gain every week. Real learning jumps after a unit and stalls in a busy week. That is why the class checks the real number at week 4 and week 8, then redraws the line.

RATE: how much a value changes per unit of time. Here: points gained per week, which is (target minus baseline) divided by 12 weeks. On the graph, the rate is the steepness of your line.



PBS-U1-
D02-E1

Target: _____ percent. Baseline total: _____ percent. Line drawn from week 0 to week 12.

PBS-U1-
D02-E2

Rate: (target minus baseline) divided by 12 weeks = _____ points per week. Show the work with units.

PBS-U1-
D02-E3

Prediction: at the October 2 checkpoint (week 4), your line says you should be at about _____ percent. Show the work: baseline plus 4 times the rate. Then finish this sentence: "If my October 2 score is far below this, the first thing I will change is ..."

PART F · WRITE THE CALL: CLAIM, EVIDENCE, REASONING

SEC 06

One paragraph, five to seven sentences. **Claim:** your target and the date. **Evidence:** your baseline, your rate, and two study actions from yesterday's plan (name the resource and the day). **Reasoning:** why those actions should produce that rate, and the one assumption the straight line makes. End with what would make you revise the target.

Claim ceiling. A projection is a plan you can check, not a promise of your real test score. The strongest allowed sentence is "if I keep this rate, the line reaches my target." Nothing on this sheet predicts the actual WebXam result.

PBS-U1-
D02-F1

☐

Your paragraph:

PART G · VOCABULARY IN USE AND SELF-CHECK

SEC 07

PBS-U1-
D02-G1

☐

Use **baseline** and **rate** correctly in one sentence about your own graph.

Self-check. Answer in one line each. These come from today's pack.

PBS-U1-
D02-G2

☐

Your data has one huge outlier. Mean or median, and why?

PBS-U1-
D02-G3

☐

Your score measured every four weeks: which graph type, and why?

PBS-U1-
D02-G4

☐

A bar chart's axis starts at 50 instead of 0. What does that do to a small difference?

STANDARDS CITED ON THIS SHEET, AND HOW IT IS USED IN DATA-DRIVEN INSTRUCTION

REF

WebXam alignment. Principles and Practice of Biomedical Technology (code 072110), Domain 2 Biotechnology Research and Experiments (46.07 percent of the test), Ohio outcome 5.8 Biotechnology Research and Experiments.

Ohio Health Science	5.8.4	Establish and implement procedures for systematic collection, organization and use of data.
Ohio Health Science	5.8.8	Compute measures of central tendency and dispersion to interpret results and draw conclusions.
Ohio Health Science	5.8.10	Create, interpret, and use tabular and graphical displays and describe the data.
Ohio Health Science	5.8.11	Draw conclusions and propose next steps based on observations and data analysis, recognizing that experimental results must be open to the scrutiny of others.
Ohio Health Science	1.2.12	Use technical writing skills to complete forms and create reports.
PLTW PBS framework	EXD-B.2	Display data appropriately and accurately in digital or written form (graphs, tables, diagrams).
PLTW PBS framework	EXD-B.3	Perform necessary calculations to analyze experimental data.
PLTW PBS framework	EXD-B.4	Draw logical conclusions from experimental data.
PLTW PBS framework	CCP-B.1	Use mathematical computations to interpret data.
Common Core	RST.9-10.7	Translate quantitative or technical information expressed in words into visual form (a table or chart) and translate information expressed visually or mathematically into words.
Common Core	HSS-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (range, standard deviation).
Common Core	HSS-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
Common Core	HSS-ID.C.7	Interpret the slope (rate of change) and the intercept of a linear model in the context of the data.
Common Core	HSN-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently, and choose and interpret the scale and the origin in graphs and data displays.
Common Core	HSN-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
Common Core	WHST.9-10.1	Write arguments focused on discipline-specific content: precise claims, relevant evidence, and reasoning that connects them.
Common Core	MP.4	Model with mathematics.

NGSS	SEP-4	Analyzing and interpreting data: analyze data using tools, technologies, and models to make valid and reliable scientific claims.
NGSS	SEP-5	Using mathematics and computational thinking: use mathematical representations to describe and support explanations and predictions.

How this sheet is used in DDI. Each item carries a code (for example PBS-U1-Do2-E2). Mr. Mendoza scores every item 0, 1, or 2 (2 = complete and correct, 1 = partly, 0 = missing or wrong) and records the scores by period and investigator code, never by name. The scores roll up into five skills:

PBS.S.02a	Record reported scores with units; label simulated and missing values	items B1, B2
PBS.S.02b	Build an honest graph: right type, labeled, axis at zero, read against a reference line	items C1, D1, E1
PBS.S.02c	Compute and choose center and spread (median, range, mean) for the data shape	items D2, D3, G2
PBS.S.02d	Use a straight-line model: rate per week and a checkpoint prediction	items E2, E3, G3
PBS.S.02e	Defend a quantitative claim with evidence and name its assumption	items A1, A2, F1, G1, G4

Mastery rule. A skill is on track when at least two of its items score 2. A skill below that routes you to the Day 2 pack, SEC 02 (Background and briefing), and to the Graphing and statistics page on the portal. It also comes back as a warm-up question next week. These scores are Mr. Mendoza's instructional record for deciding what to reteach. They are not the report-card grade, which lives in Schoology.