# TASK VERBS, DECODED

The bold word says what kind of answer earns the point. The rest of the sentence says what it must contain.

**Read past the bold word.** Every part of a free-response question has its task verb in bold, and the people who score the exam say why: *"These words are bolded in the free-response questions to help students understand the type of response that is expected for a given question."* The 2025 and 2026 papers used nine. Three are decoded below on real 2025 questions, each point with a bar for what it averaged that year; the other six are at the foot of the page.

## DERIVE four times on every paper since 2025

2025 • Question 4 • Part B

A block of mass $m$ and volume $V$ is held completely under a fluid of density $\rho$, then released. It rises.

**1** ***Starting with Newton's second law,*** **2** ***derive*** *an expression for the initial upward acceleration $a$ of the block ...* **3** ***Express your answer in terms of*** $m$, $V$, $\rho$, *and physical constants, as appropriate. Begin your derivation by writing a fundamental physics principle or an equation from the reference information.*

**1** Line one is the law the prompt names, $\Sigma F = ma$, and no other. **B1** 0.72
Some students opened with Bernoulli's equation instead.

**2** More than one line: the forces in this problem, with the buoyant force written as $\rho V g$. **B2** 0.67

**3** An answer in the listed letters only: $a = \rho V g/m - g$. **B3** 0.39

**EVERY TIME.** The principle first — the one the prompt names, if it names one. Then this problem's quantities. Then the answer, in the prompt's letters. A bare correct answer earned B2 and B3, never B1: the working is the one point the answer cannot buy.

## JUSTIFY four times on every paper since 2025

2025 • Question 4 • Part A

The same block, released in freshwater ($a_1$) and in denser salt water ($a_2$).

**1** ***Indicate*** *whether $a_1$ is greater than, less than, or equal to $a_2$ ...* **2** ***Justify*** *your answer* **3** ***in terms of ALL forces exerted on the block in each scenario.*** **4** ***Use qualitative reasoning beyond referencing equations.***

**1** One choice, written plainly. The verdict is a point of its own. **A1** 0.73

**3** The force that does *not* change: the weight is the same in both tanks. Only a third of students wrote it. **A2** 0.32

**3** The force that does: the salt water pushes up with a larger buoyant force. **A3** 0.52

**EVERY TIME.** **2** A reason, in sentences — never the claim said again. **4** An equation can back the reason up; it cannot replace it. Then read to the end of the sentence: seven of the eight *justify* prompts since 2025 name what the reason must rest on — all the forces, a principle, your derivation, your graph.

## CALCULATE once on every paper since 2025, at the end of the lab question

2025 • Question 3 • Part D

The class graphed the tension $F_T$ against $1/\sin\theta$, knowing that $F_T = 5Mg/(6\sin\theta)$.

**1** ***Using the best-fit line that you drew*** *in part C (iii),* **2** ***calculate*** **3** ***an experimental value*** *for the mass $M$ of the meterstick.*

**1** **2** Before any number, what the slope of your line equals: slope $= \frac{5}{6}Mg$, so $M = 6\,(\text{slope})/(5g)$. **D1** 0.28

**3** Then the number, from your line, with its unit: $M \approx 1.0$ kg. **D2** 0.28
Anything from 0.90 to 1.15 kg earned the point.

**EVERY TIME.** Most students found the slope; far fewer turned it into the mass. Write what the slope equals, then solve. The paper's own directions: *"All final numerical answers should include appropriate units when applicable."*

## THE OTHER SIX BOLD WORDS times used on the 2025 and 2026 papers together

**INDICATE** 10 times
Pick one and write it plainly, "without elaboration or explanation." The reason, if wanted, comes under *justify*.

**SKETCH** 4 times
Shape first — rising, falling, flat, straight or curved — then any value the question gives, and a label if asked.

**LABEL** 6 times
On an axis: the quantity and its unit, when it has one. In 2025 a label without its unit lost the point.

**DESCRIBE** 4 times, lab only
The procedure, including how you reduce uncertainty — or how the slope of your graph gives the unknown.

**DRAW** 5 times
Bars, arrows, a best-fit line — which follows the trend in one straight line or smooth curve, never dot-to-dot.

**PLOT** 2 times, lab only
Points on an evenly spaced scale, for the quantity you said you would plot.


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# What the card on the front is built from

## Nine verbs do all the work

released free-response questions, 2024–2026

The course description defines fourteen task verbs (Exam Information, p. 175). The two redesigned papers print nine of them in bold — 49 times between them — and never the other five: *compare, determine, estimate, rank, verify*. *Derive* and *justify* come four times a year and never in the lab question; *describe*, *plot* and *calculate* only in it. The 2024 row, the old course's last paper, is for contrast: its commonest verb, *explain*, is not on the current list at all.

| | INDICATE | JUSTIFY | DERIVE | LABEL | DRAW | SKETCH | DESCRIBE | PLOT | CALCULATE | EXPLAIN | DETERMINE | ESTIMATE | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2024 | 2 | 3 | 2 | 3 | 4 | 1 | 3 | – | 1 | 5 | 1 | 1 | 26 |
| 2025 | **5** | **4** | **4** | 3 | 2 | 3 | 2 | 1 | 1 | – | – | – | **25** |
| 2026 | **5** | **4** | **4** | 3 | 3 | 1 | 2 | 1 | 1 | – | – | – | **24** |

## What the readers spelled out in 2023, and what the redesign kept

Chief Reader Report 2023, Q1, p. 4

> *"Derive an equation—this means that the algebraic manipulation must start with a fundamental principle of physics or an equation on the equation sheet and must show multiple steps including appropriate substitutions. … 'Determine' does not require work to be shown, only the final answer. … A question with the task verb 'calculate' should include a final answer with units where appropriate."*

This predates the redesign, so each line needs checking against today's papers. One holds, one has gone, one has moved.

**Derive holds, and is now printed on the paper.** Every *derive* on both redesigned papers carries *"Begin your derivation by writing a fundamental physics principle or an equation from the reference information."* The rubric pays for it as "a multistep derivation that includes" the principle — six such points in two years — and every Scoring Note on a bare correct answer leaves it out: "A correct, isolated, final expression for $a$ earns points B2 and B3" (2025, Q4 B). Issue 03 lays it out as a four-line scaffold.

**Determine has gone.** Its current definition, "Make a decision or arrive at a conclusion after reasoning, observation, or applying mathematical routines (calculations)," says nothing about skipping work, and neither redesigned paper prints it in bold. The answer-only verb is now *indicate* — "without elaboration or explanation" — and seven of its ten uses lead straight into a *justify*.

**Calculate has moved** — to the end of the lab question, once a year, from the student's own line: "Using the best-fit line that you drew in part C (iii), calculate an experimental value for the mass $M$ of the meterstick" (2025; for $\mu_k$ in 2026). Both rubrics split it the same way: "For correctly relating the slope of the best-fit line to the value of" the unknown (D1), then a value inside a range (D2: 0.90 to 1.15 kg; 0.53 to 0.57). In 2025 both averaged **0.28**, and the report says why: "most responses included an attempt to calculate the graph's slope. As in part B a much smaller number accurately linked their graph's slope to the mass of the meterstick" (Q3, p. 8). No published response shows whether a bare number, or one without a unit, still earns D2.

## Justify: the second half of the sentence is the rubric

2025 and 2026 papers

The definition is one line: "Provide qualitative reasoning beyond mathematical derivations or expressions to support, qualify, or defend a claim." Then seven of the eight prompts say what the reasoning must rest on:

| | *2025* | *2026* |
|---|---|---|
| **Q1 B** | only *"Justify your response."* | *"… include qualitative reasoning beyond mathematical derivations or expressions."* |
| **Q2 D** | *"… how your response is consistent with the energy lines or curves you drew …"* | *"… by referencing a fundamental physics principle."* |
| **Q4 A** | *"… in terms of ALL forces … Use qualitative reasoning beyond referencing equations."* | *"… using qualitative reasoning beyond referencing equations."* |
| **Q4 C** | *"… by referencing your derivation in part B."* | *"… how your derived equation … is or is not consistent with your reasoning in part A."* |

**Beyond is not without.** 2023 said "Justify your answer without using equations" (Q3 (a)(iii)); since 2024, wherever a prompt mentions equations, it says *beyond*. Sample 2A of 2025 earned the point while "calculating the potential energies at $8D$ and $9D$," then said what they meant for the speed.

**Half a qualifier, half the points.** 2025 Q4 A said ALL, in capitals. Its point A2, "a justification that indicates that the blocks have the same weight or mass," averaged **0.32**: "only a third of the responses indicated that the force of gravity on the block stays the same" (p. 11), and two of the three published responses lost it for exactly that. On Q2 D the reasoning had to cover both potential energies; D2 averaged **0.22**, because "many responses only addressed how either the gravitational potential or spring potential energy changed as opposed to both" (p. 7).

**One sentence, two verdicts.** "Momentum is conserved." is on the 2026 list for Q2 D2, where the prompt asked for a principle and the claim was that the two disks' changes in momentum are equal. On 2025 Q1 B the claim was that the momentum "Remains constant," so the same sentence is the claim again. It is on neither list there, and the report names it: "Some used conservation of momentum as the justification for the momentum remaining constant" (p. 4). The points went to the reason behind the conservation: "The frictional force is internal to the new block-cart system"; "The net external force is still zero." A principle is a reason — unless it is the claim.

**Sources.** Task verbs and definitions: AP Physics 1: Algebra-Based Course and Exam Description, Exam Information, p. 175 (2026 edition; the same list is on p. 182 of the 2024 edition). Verbs counted where printed in bold in the released free-response questions, 2024–2026. Rubric points and Scoring Notes: 2025 and 2026 Scoring Guidelines; responses: 2025 Scoring Commentary. Point means: 2025 Chief Reader Report ($N = 174{,}992$); other quotations from the 2023 and 2025 Chief Reader Reports by question and page. The 2026 Chief Reader Report and Sample Responses were not yet published when this issue went out, so 2026 enters through its paper and its rubric only. Chief Reader 2023–2025: Brian Utter, University of California, Merced. Free to reproduce with attribution. Independent publication, not endorsed by or affiliated with the College Board. AP® is a College Board trademark.