

How to get a grade 5 in AQA GCSE Physics (Higher tier)

A grade 5 on Higher tier means being secure on the core of all eight topics: the key facts and definitions, the standard one- and two-step calculations, reading graphs and tables, and describing the required practicals. You don't need to master the hardest questions. You need to collect nearly every mark on the questions aimed at grades 4 and 5 and pick up the first marks on the harder ones. The plan below covers 10 weeks at 3 to 4 hours of physics a week; stretch or squeeze the weeks to fit the time you have.

What a grade 5 asks of you

- Recall facts and definitions from all eight topics accurately, e.g. the energy stores, the parts of the atom, the properties of alpha, beta and gamma, and the order of the electromagnetic spectrum (radio, microwaves, infrared, visible, ultraviolet, X-rays, gamma).
- Do one- and two-step calculations with the recall equations ($W = mg$, $F = ma$, $s = vt$, $V = IR$, $P = VI$, $E = Pt$, $Q = It$, $\rho = m/V$, $v = f\lambda$, $E_k = \frac{1}{2}mv^2$, $E_p = mgh$, efficiency), including rearranging and converting units.
- Read values from graphs and tables, calculate a mean, and describe a trend using data.
- Describe each of the 10 required practicals: the equipment, what you change, measure and control, and one hazard.
- Write clear 2 to 3 mark 'describe' and 'explain' answers with the right key words, and reach at least Level 2 (3 to 4 marks) on most 6-mark questions.

Secure these topics first

- Paper 1: energy stores and transfers, work, power and efficiency; energy resources; circuits (series and parallel rules, $V = IR$, the I–V graphs of a resistor, filament lamp and diode); mains electricity (230 V, 50 Hz, live, neutral and earth wires); density and changes of state; specific heat capacity; the atom, isotopes, alpha, beta and gamma, and half-life from a graph.
- Paper 2: mass and weight; resultant forces and Newton's laws; speed, distance–time and velocity–time graphs; stopping distance as thinking distance plus braking distance and the factors that affect each; Hooke's law; transverse and longitudinal waves and $v = f\lambda$; the uses and dangers of each electromagnetic wave; magnets, electromagnets and solenoids; the life cycle of a star like the Sun.
- These topics are central to the specification and appear in many of the questions aimed at grades 4 and 5, so they give you the most marks for your time.

Question types to master

- Multiple choice and 1-mark recall: quick, reliable marks if your facts are secure.
- Standard calculations set out as equation, substitution, answer with unit. Practise converting g to kg, kJ to J, cm to m and minutes to seconds until you never miss one.
- Graph questions: reading values, describing trends, and finding the gradient of a straight distance–time or velocity–time graph.
- Required practical questions: naming the variables, spotting an anomaly, calculating a mean, and saying why repeat readings help.
- 2 to 3 mark 'explain' questions: a statement plus its reason, linked with 'because' or 'so'.
- 6-mark 'describe a method' questions: learn a clear numbered method for each required practical.

Your 10-week revision plan

- Weeks 1 to 2: Energy (stores, E_k , E_p , work, power, efficiency, energy resources) and the start of Electricity (circuit symbols, current, $V = IR$, I - V graphs, series and parallel circuits).
- Week 3: the rest of Electricity (mains, power, $E = QV$, the National Grid, static) and the Particle model (density, changes of state, specific heat capacity, specific latent heat, gas pressure).
- Week 4: Atomic structure (the atom and its history, isotopes, nuclear radiation, nuclear equations, half-life, contamination and irradiation, fission and fusion). Finish with a timed Paper 1 mock.
- Week 5: Forces (scalars and vectors, weight, resultant force, work done, springs, moments, pressure).
- Week 6: Motion (speed, velocity, acceleration, motion graphs, Newton's laws, stopping distances).
- Week 7: Waves (wave properties, $v = f\lambda$, the electromagnetic spectrum, uses and hazards, lenses, visible light, infrared emission and absorption).
- Week 8: Magnetism and electromagnetism, and Space physics. Finish with a timed Paper 2 mock.
- Week 9: all 10 required practicals, plus your three weakest subtopics from the two mocks.
- Week 10: one more timed mock of each paper, then redo every question you dropped marks on.

How to use GCSE Paper Builder

- Notes: learn each subtopic from its notes, then test yourself with its worksheet and check the answers. Use the grade-by-grade skill list and tick off every skill up to grade 5 in the checklist as you secure it.
- Cheatsheets: a 10-minute look at the week's cheatsheets before you start questions is a quick way back into a topic.
- Custom paper: pick the subtopics from that week, choose Easy or Medium difficulty and a short length, and mark it with the mark scheme. Add Hard questions once you are scoring well on Medium.
- Mock exams: sit Paper 1 at the end of week 4 and Paper 2 at the end of week 8, timed, then both again in week 10.
- Daily 5: do it every day and keep the streak going. It draws on your weakest topics, so gaps don't get forgotten.
- Flashcards: a few minutes a day from week 1. Spaced repetition brings back the cards you find hard more often, which is how facts and definitions stick.
- Progress: check your weakest subtopics each week (they are listed first) and redo the questions you dropped marks on.
- Whiteboard: practise rearranging equations and sketching graphs on screen before writing your final answer.
- Tutoring: if a topic still won't click after the notes and worksheet, book the free 30-minute trial lesson with Chhetri Academy for 1-to-1 help.

Timing strategy in the exam

- Work through in order at about a minute per mark. If a part stops you, write the equation or your first point, star it and move on.
- Bank every multiple-choice and recall mark: they are the quickest marks on the paper.
- Give each 6-mark question about 6 minutes and write something for every one. Several correct, relevant points in a sensible order can reach Level 2.
- Keep the last 10 minutes to check units, conversions and that every question has an answer.

Traps at grade 5

- Forgetting to convert units (g to kg, kJ to J, minutes to seconds, cm to m) before substituting.
- Mixing up mass (kg) and weight (N), or current and potential difference. Say current **through**, potential difference **across**.
- Forgetting to square the speed in $E_k = \frac{1}{2}mv^2$.
- Describing when asked to explain (no reason given), or describing a trend without quoting any data.
- Misreading graph scales: check what one small square is worth on each axis before reading a value.
- Thinking a sample has all decayed after two half-lives. After one half-life half is left; after two, a quarter.
- Leaving questions blank. An unanswered question can never score, but a correct equation or one relevant fact might.

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