

## English

### Criteria for the identification of the more able

- *Asks questions to challenge and develop thought and recognises and accepts ambiguity.*
- *Shows a perceptive critical faculty which enables connections and judgments to be made within and beyond texts.*
- *Uses an unusually wide vocabulary, often accurately, sometimes experimentally and can often read constantly, voraciously, even indiscriminately.*
- *Expresses ideas succinctly, sometimes elegantly but may feel detail or support is so obvious as to be unnecessary.*
- *Identifies main issues in debates and devises strategies quickly to deal with them, in many roles, perhaps in unorthodox ways.*
- *Understands registers instinctively and can react creatively to others' ideas to mediate and develop them.*
- *Possesses sensitivity to verbal differentiation in written texts and commands eloquent academic writing style including the ability to consistently demonstrate precision, nuances, sophistication and subtlety in arguments.*
- *Can perform close reading of texts, noticing details and specifics in order to conduct sensitive interpretations; can also apply these skills to unseen texts.*
- *Driven by curiosity to think more deeply about the subject beyond classroom lessons, e.g. reading widely to develop their knowledge; being interested in situating texts in their wider socio-historical context; considers critical ideas; continues to develop good 'map' of key moments in the development of the literature landscape.*

Please write down any additional criteria that your department uses to identify the most able. Please refer to subject specific or synoptic skills. Which of these criteria do you believe to be the most significant in achieving an A\*? Does this raise issues that may have an impact on your teaching? Are there wider issues for your students/school as a result?

## English

### **Problems encountered in achieving the highest grades**

- *A key barrier is the lack of appropriately deep and broad reading experience at a sufficient level of challenge often dating back to KS2 which inhibits the ability to sensitively interpret texts in the light of other texts.*
- *Students inability to write with a wide-ranging and suitable academic vocabulary, as well as to reproduce argumentative genres and to achieve stylistic density and precision inhibits the move from descriptive to analytic and evaluative writing.*
- *A lack of comfort around ambiguity, uncertainty and risk-taking inhibits students trying to achieve an A\* as opposed to very securely achieving an A by tick-boxing all requirements.*
- *Students have too little experience of unsupported extended writing at a higher level which is why written abilities are weaker than their oral skills and why exam results don't reflect abilities shown in class.*
- *Students can't be taught all of the cultural capital they might be missing, but can be taught how to explicitly decode - to understand the words and syntax required for breaking down a text.*
- *Many of the brightest and most inquisitive students don't continue with English at KS5/university, exacerbated by the fact that students feel secure in subjects where the marking is accurate and stages of progression very clearly marked.*

## Mathematics

### Criteria for the identification of the most able

- *May consider the elegance and efficiency of alternative lines of enquiry or procedures.*
- *May develop individual non standard methods for solving problems, and skimp on explanations but may be able to justify them.*
- *Sees the implications of concepts quickly, but may complicate problems by thinking of other implications or restrictions.*
- *Takes unexpected sidelines or develops short cuts, by making connections to different branches of maths and applying them creatively.*
- *Examines the strategies adopted when investigating within mathematics itself or when using mathematics to analyse tasks.*
- *Includes mathematical justifications, distinguishing between evidence and proof and explains their solutions to problems involving a number of features or variables.*
- *Possesses strong number skills: can see number patterns and factors.*
- *Possesses strong algebraic skills: can manipulate expression and equations with confidence and accuracy.*
- *Can remember correct and efficient methods and important facts and concepts.*
- *Possesses resilience, demonstrated through risk-taking in learning and ability to cope with errors and incorrect solutions as part of process to find the right solutions.*
- *Possesses confidence to solve, or at least attempt to solve, a problem independently without needing reassurance from others.*

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## Mathematics

### Problems encountered in achieving the highest grades

- *Insecure prior knowledge from GCSE impedes progress upon transition to A level, where students' understanding of fundamental knowledge covered is insecure, confused or weak, A level study therefore is not building on secure, sound foundations.*
- *Transition difficulties where students who have been heavily coached in Maths during their GCSE years and think they are better at Maths than they are struggle with the increased complexity of A level when those scaffolds are removed.*
- *A student belief that maths ability is pre-determined which can create too low aspirations potentially restricting students' progress in lessons, or that students see a solution instinctively or by trial and error but don't know how to solve complex problems strategically and methodically.*
- *Schools placing too much emphasis on 'C and above', which results in students accepting potentially lower grades but across a greater number of subjects, and leads to a lack of understanding the requirements for achieving A\* at A level, particularly the amount of hard work required.*
- *The strength, depth and breadth of a teacher's own subject knowledge may limit student achievement, particularly regarding non specialists teaching Maths.*
- *Often large classes for Maths A level and therefore the challenge is of meeting the needs of an exceptionally wide ability range.*
- *Time too short to cover the syllabus and still be able to revisit and consolidate learning and to explore topics beyond the specification to provide an appropriate challenging pace for A\* learners.*
- *Poor access to 'good' high challenge high quality A\* resources for Maths without going in to University level work.*

## Science-Biology

### Criteria for the identification of the more able

- *Observes with insight, offering perceptive interpretations and extrapolations.*
- *Asks novel 'what if' type questions, making links to prior knowledge but with lateral twists and shows mental flexibility on moral issues.*
- *Sees relationships between variables and makes perceptive explanations of hypotheses.*
- *Makes intuitive leaps in different situations, showing genuine innate curiosity and persistent interest in biological topics and furthers this interest in different ways, e.g. reading books and blogs; watching TV programmes where relevant; asking questions; engaging and participating in class to show their understanding.*
- *Absorbs new concepts rapidly demonstrating a great interest in the bigger questions such as the nature of the universe.*
- *Reluctant to accept simplified explanations or to work on anything which is low level and unchallenging.*
- *Regularly completes unsupervised consolidation work to address biological misunderstandings without being prompted.*
- *Has an ability to retain and then recall a large amount of factual information at one time, and has developed strong examination technique such as the ability to appropriately interpret the wording of questions, which enables them to show off their subject knowledge and understanding.*
- *Demonstrates a willingness to talk about their understanding, to ask questions in class, to work independently and to show interest in the wider subject based controversies.*
- *Possesses resilience, is mentally flexible and determined to continually push themselves further, willing to change their mind; will challenge scientific dogma and can apply existing knowledge to explain unknown concepts.*

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## Science-Biology

### Problems encountered in achieving the highest grades

- *The key barrier is the students' lack of understanding about the step-up from GCSE to A level particularly the levels of specificity required in responses at A level compared to GCSE.*
- *Students' have a lack of understanding of 'the bigger picture' meaning they are restricted in making synoptic links between topics.*
- *They lack the ability to sensibly use their wider understanding to respond to 'suggest' questions that do not rely on prior knowledge and often incorrectly interpret the requirements of questions.*
- *The linear GCSE and A level qualifications in Biology have a greater emphasis on depth and breadth of knowledge, they need to have an expert grasp of subject knowledge that they can draw on and recall with ease and confidence.*
- *The new courses require teachers to be confident knowledge-deliverers, capable of making references to wider knowledge, to broader contexts, to 'the big picture' and some teachers haven't remained up-to-date and energised by Biology and aren't able to take learning beyond the specification.*
- *Teachers need to be capable of using obscure but interesting examples to hook in learners, talking in specifics to make generalities clear rather than vice versa.*
- *Students don't see that the landscape of learning is far broader than that shown in the syllabus and awareness of this helps to promote intellectual curiosity, which, in turn, can be instrumental for developing an intrinsic motivation for studying Biology that will drive them to engage all the time whatever the task.*
- *Students often have misconceptions about biological language - how the meaning of words changes from KS4 to KS5 - and understanding that they need to know 300 key terms before they can access the A level paper.*

## Science-Physics

### Criteria for the identification of the more able

- *Possesses good mathematical skills including being good at algebra, integration and differentiation, and is confident to work accurately with equations, numbers, units, unit prefixes and estimations.*
- *Can explain their understanding using accurate technical language and can recall basic terminology, symbols and equations.*
- *Has ability to correctly interpret questions and can respond logically and using relevant evidence.*
- *Can apply knowledge from one context to another and can accurately select the appropriate Physics.*
- *Holds a good work ethic, expects to succeed and is prepared to invest the time required for achieving high standard work and for working on mechanical tasks such as writing rote answers and applying equations.*
- *Demonstrates their broader engagement with the subject, e.g. illustrating their awareness of current scientific views and readily commenting on their reading.*
- *Absorbs new concepts rapidly demonstrating a great interest in the bigger questions such as the nature of the universe, fundamental forces and neutrinos.*
- *Reluctant to accept simplified explanations or to work on anything which is low level and unchallenging.*
- *Keen to express ideas mathematically and has the ability to deal with this (such as integrating/differentiating).*
- *Has excellent recall of terminology, symbols and definitions.*
- *Is capable of logical and structured argument, understanding the point of a question and bringing in the relevant evidence and logical structure.*
- *Can use scientific and technical vocabulary with accuracy, appreciating its succinctness.*

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## Science-Physics

### Problems encountered in achieving the highest grades

- *The key barrier is poor exam technique with students often unable to demonstrate understanding through appropriate application of knowledge - although students are good at learning Physics they need to be able to show what they know to be at A\* standard*
- *Students getting used to not knowing where an equation comes from and so they end up plucking it from thin air.*
- *Teachers not able to rise to the expectations of their A/A\* students, not feeding their appetite for subject knowledge, not continually inspiring their students through their own passion, enthusiasm and expertise for Physics.*
- *Too little focus on the repetitive precision of language in Physics - if teachers are inconsistent in their use of language, this inevitably limits students' ability to develop their skill of using this language appreciating that language use in Physics differs from real world application of same terms.*
- *Not enough emphasis on how to best find out the depth, breadth and security of students' understanding so that confusions and misconceptions are identified and addressed early.*
- *Teachers unable to see the meaning behind a question, expand on it and provide alternative explanations – and not understanding when a student makes an error, why that might be.*

## Science-Chemistry

### Problems encountered in achieving the highest grades

#### **Criteria for the identification of the more able**

- *Observes with insight, offering perceptive interpretations and extrapolations.*
- *Good at explaining challenging concepts to their peers with precision and attention to detail.*
- *Is able to link different parts of not only the chemistry syllabus, but other sciences.*
- *Asks novel what if type questions, making links to prior knowledge but with lateral twists.*
- *Can relate abstract concepts and application skills from all subject areas and apply them to specific areas or scientific questions.*
- *Balances equations and understands what a chemical reaction is and the maths behind it*
- *Appreciates the real world subject applications from the chemistry of the stars to looking for a cure for Malaria*
- *Sees relationships between variables and makes perceptive explanations of hypotheses*
- *Makes intuitive leaps in different situations, showing genuine curiosity and persistent interest in topics.*
- *Absorbs new concepts rapidly demonstrating a great interest in the bigger questions such as the nature of the universe.*
- *Reluctant to accept simplified explanations or to work on anything which is low level and unchallenging.*

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### Problems encountered in achieving the highest grades

- *The key barrier is in fostering an academically competitive atmosphere amongst students who are then motivated to enter in-house subject competitions; participate in national Olympiads; creating a collaborative classroom where students work together to solve problems.*
- *Introducing our most able students to beyond-level work such as posing A level questions to KS4 students; trialling undergraduate level exercises with KS5 learners is seen as intimidating and challenging of self esteem.*
- *The lack of rigour and over simplification in the GCSE Chemistry courses and the conceptual model is radically different (e.g electron sub shells) which can easily result in insecure or weak knowledge foundations, which impedes significant progress upon transition to A level.*
- *The learning curve in Chemistry is different from many other subjects and can be seen as hard going and dispiriting as the students often feel a learning dip over the opening few months.*
- *Students often only take Chemistry, not because they are intrinsically interested in it, but because it is a compulsory element for medical courses, so their motivation is poor.*
- *Students lack of understanding about what a chemical reaction is and the maths behind it and being unable to balance equations and unable to link 'smaller' concepts to the bigger picture to widen their understanding.*