



RADLEY

## Academic Scholarship 2021

(A series of detailed reports to provide feedback for Preparatory Schools)



# Introduction

It is perfectly obvious that this year has posed immense challenges for those in education. Yet although times have been very tough, on many levels, we have probably all been greatly impressed by the adaptability and resilience of young people. Thank you for having been part of a patently effective effort to try and keep your pupils focused on learning. The Radley heads of department have thoroughly enjoyed reading and marking your pupils' work. I know that all those involved in the admissions process were therefore deeply impressed by the level of commitment shown by teachers - as reflected in the performance of candidates. It is clear that a great deal has been done to help the candidates present their best selves in interview and on paper. We recognise those efforts and thank you for them.

The reports which follow are intended to be helpful - and helpful only! We know that preparatory schools invest a huge amount of time and mental energy in helping candidates prepare for what can inevitably be a nerve-wracking process. Trying to work out what a senior school wants - subject by subject - can be perplexing at times. We continue to consider and refine our approach and will of course reflect upon comments made by a number of schools this year. The key thing must be that we make the scholarship experience accessible and productive, thereby eliciting the best possible responses from candidates. Each boy should ideally be left feeling that he has done his best, even if it did not bring about the desired result.

Therefore I wish you all the very best until next time. Ideally we will get a summer holiday where we can all relax and take stock. That is some time away, but it's worth working towards!

Warm wishes

**Stephen Rathbone**  
**Academic Director MA, MA**



# Subject Reports

## ENGLISH

### Section A

Overall, most candidates understood and grasped the essence of the poem. They were able to convey a sense of the descriptive beauty of the bird and the best answers were able to suggest the feelings and tone of the poem expressing the sadness and loss of the bird to extinction. Average answers tended to be competent in 'feature spotting' and most students in this category were able to identify and explain a variety of poetic techniques. Whilst this showed competence in a basic sense, the weaker answers (a majority of essays) tended to at worst merely list and at best paraphrase in an explanation of the technique. The really good answers managed to say something insightful about the effects and go into detail about the way sound, imagery, or shape of the poem worked to create meaning. My advice to future candidates would be to try to get this right by not just listing techniques and going beyond explaining to try to frame sentences in such a way as to show effect. i.e. use verbs such as 'the poet conveys ... reveals' or write that 'the effect of alliteration is ...'. Candidates were good on imagery and language choice, less assured on structure.

### Section B

Most candidates were able to draw a lively and vivid description of a building or animal and use a variety of language structures effectively. The best answers showed an eye, ear, and feeling for nuance and detail of what they were describing. Students should be wary of 'purple prose': over-done similes and elaborate metaphors do not necessarily impress. Certainly, a plain controlled style might be more powerful. The question was asking for a description, so students needed to be careful not to tell a story, or if they did, make sure it does not distract from the focus of the task. The best answers were able to develop character in the description of an animal or atmosphere in the description of the building. Not an easy thing to do, but the best moved beyond clichéd descriptions of stereotypical animal features.

Overall, fairly pleasing. Relatively solid standard with some showing individuality and flair. Candidates should be reminded that individuality and creativity are always redeeming, and even saving graces, even if the SPag is not totally controlled.

### Section C

There was a small clutch of worthy candidates producing original, articulate responses which engaged with the stimulating question "We learn more from tragedy than we do from comedy", and some of these were delightful, but many responses were thin, either because they lacked the necessary critical thinking skills or because a number of candidates simply did not have an English vocabulary adequate to understand the nuance of "tragedy" or to express their ideas.

The best candidates followed the instruction to refer to their own reading or experience, but most made either sketchy generalisations lacking concrete examples, or unfocused responses which did not engage with the question. Marks were awarded for structuring the argument, and most did this adequately, although they were often limited in scope or expression. Good responses made use of rhetorical techniques to persuade and were discriminating in their choice of vocabulary as well as the examples they chose to illustrate their points. Responses which viewed not getting into Radley, or doing badly at maths homework as "tragic" were difficult to reward. Vocabulary was often quite basic and repetition featured highly in some cases. There were many unambitious responses, and very few that would truly qualify as scholarship level.



## MATHS

My report reflects the steady, pleasing, and noticeable improvement in the quality of the candidates applying to Radley. In 2020 I lifted the difficulty of the papers by a small increment. I did the same this year. It is a difficult balancing act. A perfectly decent candidate needs to be able to score a respectable mark. At the same time, I need to be able to discriminate the top end. Again, I waited for the results of Paper 1 before setting Paper 2. This year, three candidates scored very close to full marks on the first paper. So the second paper had the target of ranking those three candidates, at the same time as maintaining the confidence of those candidates who were not operating at the same level. I hope that I came close to meeting this ambition.

### Paper 1

The mean mark on the paper for those candidates who were selected for Part 2 was 68%, with a spread from a lowest mark of 45%, up to a highest mark of 100%. Again, the paper did what I wanted it to do. We tested all the routine algebra that is so much the foundation of what we teach when they arrive at Radley, at the same time as throwing in a few less routine ideas, particularly in the latter questions. So, all candidates should have been able to make progress with the first questions, and the stronger candidates should have found something to get their teeth into at the end of the paper. I was pleased with the quality of the work.

### Paper 2

As already stated, I delayed setting Paper 2 until we had marked Paper 1. There were three very high marks in Paper 1, and I wanted to sort out those candidates. At the same time, I wanted to make the paper accessible to the reasonable Mathematician. The mean mark was 49%, with a spread from a lowest mark of 19% up to a highest mark of 95%. So, it did what I wanted, and I had a decent rank order at the end of the process, although I did feel a bit sorry for the candidate who scored 19%. Five years ago more of the questions would have been accessible to him. But recently I have been dealing with a stronger cohort, so questions have to be more challenging. I make the following observations:

- In Question 1 the fact that I gave them no scaffolding to find the area of the hexagon made this quite a tricky question to start with.
- In Question 3 candidates needed to spot the need to divide by  $xy$  in the final part, or 'balance', and/or subtract, and then divide by  $x$  or  $y$ .
- In Question 4 again I gave less scaffolding than in the past. Those who reached the correct quadratic managed to factorise it. No-one used a fancy calculator.
- In Question 5 perhaps my 'what do you get?' could have been clearer. But that should have become apparent when they did the algebra. The best candidates used  $n-2$ ,  $n-1$ ,  $n$ ,  $n+1$ ,  $n+2$  as their consecutive numbers.
- I thought Question 6 was going to be too hard. In fact I saw five completely correct answers.

I have commented before about presentation. I am delighted to report that this key quality continues to head in a positive direction. Again this year there were some really lovely scripts, beautifully set out. If a boy scores a high mark, and his work is a pleasure to mark, he can bet that I am going to bat strongly for him at the scholarship meeting.



## PHYSICS

The paper was tough; as such, it succeeded in challenging the most able candidates and in separating out the very good from the fairly good. The top score was 73%, with a mean score of 42% and a standard deviation of 16%. A score of over 60% was very impressive, placing the candidate in the top 20% of candidates.

The paper was designed to test aptitude rather than assess prior learning and knowledge, and the habits of thought which might be described as "thinking like a physicist". It was hoped to give opportunities to think about unfamiliar contexts, and to explore everyday physics situations afresh. Each question tested a different skill - maths, physical intuition, problem-solving, using an unfamiliar equation etc.

As with all previous papers, successful candidates were able to express large numbers in standard form. The ability to make sensible estimates also proved useful, particularly on Question 4 about the worth of a library full of books' weight in gold; blind guesses were not credited.

### A few pieces of general advice

1) Think beyond what you have been taught

The paper was designed to identify candidates who would be willing not just to write down what they could see, e.g. on Question 1, what apparatus was labelled on the diagram given, but to identify those who have thought beyond this into why each piece of equipment might have been used, and what the apparatus as a whole might be for.

Question 2 this year was purposely designed to be impossible to compute on a calculator or computer (which are not permitted). Candidates needed a good understanding of standard form, and needed to show that they were thinking clearly about a familiar example with much lower exponents, in order to see their way to a solution. An impressive number of candidates arrived at well-thought-out arguments to achieve fully correct solutions; many others who did sensible things picked up partial credit.

2) Try to relate what you see in the questions to your everyday experience of Physics

Candidates who were able to show that they spend time thinking about the physics of experiences in their everyday life were generously rewarded. Some candidates were able to spot in Question 3 that ice on the surface would freeze first (as this is what happens on ponds and lakes!). Estimating a value for gold in Question 4 from thinking about gold they might have seen, e.g. in a gold coin or wedding ring, showed real flair. Using your imagination is important in Physics!

3) Be Bold

Making sensible approximations to simplify the numbers is often a good idea in Physics. For example, in Question 5, the ratio of three squared (9) is similar to two cubed (8). Encouragingly, a fair number of candidates did this and gained credit on Question 2 (but very few candidates in Question 5 were successfully able to carry the proportional reasoning to its conclusion and obtain an orbital radius of 21000 km). Endless longhand arithmetic is rarely the right path, and for candidates who embarked upon it, not only was this unnecessarily time-consuming, it was rarely mistake-free.

4) Keep going!

Successful candidates had the resilience and determination to carry on, even in difficult and unfamiliar situations, keeping a cool head and using what they knew: some with significant aplomb.





## CHEMISTRY

The scholarship exam seeks to find those boys who can think critically and extract information from a given piece of information. Can they deduce and apply the knowledge they have gained?

This paper dealt with a topic of organic chemistry and the way structures of molecules are drawn. It will have been new for most boys although a very few seemed to have been a little more familiar. The exam tested the ability of boys to make inferences and follow on the thread that was laid down in the introduction. It is a skill to be able to absorb relevant information from a few paragraphs and then apply the newly gained knowledge.

There was also a question that tested the boys' mathematical prowess to see if they can manipulate numbers and work without a calculator. In essence this paper tried to introduce the boys to a completely new topic and combine this with previously acquired knowledge. A number of boys coped extremely well while others were not quite so secure in their approach and thinking.

## BIOLOGY

I enjoyed marking the scholarship papers this year. The exam, as has been the pattern for Biology, involved a reading comprehension followed by a set of questions based on it. The passage read by students was adapted from a scientific report about Cusuco National Park which has been visited by our Sixth Form students on various Honduras Expeditions over the past decade. This touched on a number of ecological/environmental issues, and it was a pleasure to find students of all abilities volunteering opinions, often backed up with suitable evidence, that went well beyond the scope of the passage they were given. Issues to do with climate change and carbon sequestration were particularly to the fore.

There was a tendency for students to have a relatively detailed knowledge of classification also, although this tended to be at the class level (i.e. characteristics of mammals and other vertebrates) but, surprisingly, only two knew what a "genus" was (the majority of others mixing this up with the family). When it came to defining certain keywords, there was a tendency at times to think in terms of English rather than scientific definitions, though there were no particular patterns in terms of schools or terminology. That said, the words "endemic" and "elusive" seemed less familiar for many.

Overall marks ranged from about 33% to 90% so the paper seemed to have discriminated well, although an element of that will be for boys' comprehension/English ability as well as their Biological understanding. As ever, those with an understanding of Natural History were able to benefit from this, even if their approach wasn't highly academic in other respects.



## LANGUAGES APTITUDE TEST

The MFL Language Aptitude Test was sat by two boys. This test is for those boys who have not been entered for French, German or Spanish. The data doesn't really give us much apart from some idea on basic language skills. The test focuses mainly on problem-solving skills.

The reason why we have this test is for all Scholarship candidates to have a formal assessment for Languages, so they all know that Modern Languages are important at Radley and there is no way around it.

Both candidates performed well and had a good go at challenging questions.

## FRENCH

Technical knowledge of the language helped the applicants who got higher grades. Being able to recognise morphological items such as a past participle, a reflexive or an adverb was usually the sign of a more confident French learner. In the writing section, there were some excellent texts, which showcased complex structures such as “après m’être réveillé mais avant d’aller à l’école” which show range and confidence. I would recommend exploring such structures for applicants to be able to produce longer sentences in the target language. Logical connectors also made a difference in the general flow of the written output. Overall, well done to all the students for their hard work!

Variety in verbs would also considerably help the general range of the students. In many papers, a few verbs were used over and over. Expanding the repertoire of regular verbs (mostly -er and -ir groups) would be an accessible way to improve. For the more able students, that combined with systematic variation in tenses for the Writing would help secure a higher mark.

Many candidates showed considerable ability to write authentically and accurately in a range of tenses without the underlying feeling of pre-learnt material, regurgitated unthinkingly. One or two boys struggled to deliver accurate verbs in any tense and looked, on paper, more like beginners than scholarship candidates; if you have any scholarship candidates who have learnt French for less than 18 months then do let us know as they can sit our Language Aptitude Test instead (see Latin and Greek section).



## HISTORY

### Marks

For the shortlisted candidates, the mean average was 32 and marks ranged from 21-41 out of a maximum possible score of 50.

### Summary

Once again, we felt the answers to this format of paper allowed us to clearly identify those boys who were keen to think on their feet, present balanced discussion and show historical imagination. There were no rubric errors, although some candidates may have done better had they deconstructed the questions with greater precision. The top candidates were able to produce thorough responses to all questions, even if some weaker candidates clearly struggled with the time pressure.

### Feedback by question

The first section dealt with a short piece of contemporary source material concerning the fall of the Bastille in 1789. The piece was challenging both in terms of content and language and was effective in revealing the reading fluency and historical imagination of candidates.

The first question asked candidates to select a short excerpt that they found interesting and to explain why they found it interesting. Candidates performed better in this than in recent years, mostly developing sensible justifications for their choice. Indeed, the best produced developed and, sometimes, multiple reasons for their selection. Many do not appear to know the difference between a phrase and a clause. Weaker candidates wrote simplistic or undeveloped answers.

The second question required candidates to draw inferences about the importance of the storming of the Bastille to different people at the time. There were various people whose position could be deduced, including, but not limited to, the Parisian mob, the American government, the French aristocracy and the king himself. Stronger candidates managed to draw out a wide range of sensible inferences on a number of these people and explain what had allowed them to deduce each. Weaker answers tended to be brief and focus only on one person or group.

The third part of the source section asked candidates whether they would trust the source as evidence in a historical enquiry about the period. The best answers focused on the nature of the evidence and how it was presented, as well as considering authorial position and purpose. Weaker answers tended to make stereotypical and apparently trained judgements or showed highly questionable reasoning.

Both essays allowed candidates to use material they had studied – either a person, or an event – and use this to answer a broader question. Most candidates did not read the questions carefully enough. The invitation to ‘discuss whether’, or ‘discuss how much’ was an invitation to produce a balanced answer but most candidates either described how their event was a turning point, or why they respected their individual, without any apparent consideration of a counter-argument. Candidates were then marked on their ability to conduct sustained analysis, their ability to select precise knowledge that would help them respond to the focus of the question and their ability to pass judgement with justification. There were again many answers which failed to stay focused on the question, instead only addressing the question fleetingly in the first and last paragraph, with the remainder focused on description. These answers did not score well.





## **GEOGRAPHY**

It was a pleasure to read the wide-ranging and interesting responses to the Geography scholarship paper this year. The average score was 69% and marks ranged from 40-90%. Students have six questions to choose from and must select three. Students are recommended to spend five minutes reading and selecting questions that will allow them to demonstrate strong understanding and breadth of knowledge.

The best answers were clearly organised into paragraphs and engaged directly with the command word and key words in the question. In order to score highly, students should separate their ideas into paragraphs. Leaving lines between paragraphs can be helpful to increase legibility. The quality of written communication matters and students may wish to use the PEEL structure to help sequence their ideas (Point, Explain, Evidence, Link). At least half a page of writing is expected per question. Some students only provided one paragraph and this did not provide sufficient evidence to score highly.

Two key weaknesses in the papers were lack of exemplification and poor justification. Firstly, students are reminded on the paper that 'Credit will be given for referring to examples and knowledge of current affairs'. Using examples is essential to support statements made in their responses and to demonstrate good subject knowledge. Students are encouraged to use examples from their own courses or their own local area/experiences. The best responses referred directly to “place” in support of points. Secondly, students should be explicit in justifying their opinions. Logical reasoning and evidence will help secure higher marks.

If students are able to contextualise an issue and recognise the complexity, this is advantageous. So, too, is an appreciation of the scale (temporal/spatial) of each geographical issue. Reference to key geographical themes e.g. inequality/sustainability will strengthen answers.

## **RELIGION AND ETHICAL STUDIES**

On the whole candidates engaged well with the key issues on both questions and provided relevant information on the topics (the existence of God and environmental issues). There was a lack of reasoned argument in most answers, where judgements were not provided and the question(s) not suitably answered. All candidates considered a two-sided debate for both questions.

The best answers commented on key areas of philosophical and/or theological theory, such as Paley’s watchmaker and notions of stewardship found in the Bible. There was also mention of scholars like Kant and Hume. Such answers offered opinions throughout, including in the introduction, which gave clear direction to their response. Conclusions for these answers chose a side of the argument to support and offered reasoned justification for their view.

Poorer answers gave factual information which was not evaluated. This information tended to relate to understanding of religious or ethical mentality rather than to academic study on the topics in the questions. Answers on the environment tended to be secular and without focus on religion or ethical philosophy. The lack of analysis and a reasoned argument limited scores for these answers.

There were not many outstanding answers, most were ‘good’ or ‘above average’. The main factor for this was a lack of quality argumentation.



## **GREEK**

Just three students took the exam. Two were strong, one was much weaker. All vocab was provided on the paper, giving candidates significant help, but meaning they needed to understand the grammar/syntax as well as successfully locate meanings from the vocab list provided - tenses proved tricky to identify. The length of the paper enabled all candidates to finish.

## **LATIN**

As ever, there was a wide range of experience of the language in evidence, both across the beginners' paper and the full scholarship. The full paper was sat by 16 boys and the beginners' exam by five. For the latter, good understanding of the basics of Latin syntax was shown by most. In the main paper, 70% of the marks were available from Section A, the long unseen. The best candidates scored very highly, coping well with accurate rendering of subordinate clauses such as ablative absolutes, participle phrases and various ut clauses. These had been purposely included in some density, and it was pleasing to see them dealt with so well in some cases. Marks were steadily dropped in versions which really just tried to piece the vocabulary together with main verbs. The remaining section of 30 marks was unfortunately compromised by an error from the setter, which may explain why only two candidates attempted the prose composition sentences. Both did a decent job on them, although some endings were beyond them. It appeared that there was sufficient time for the remaining candidates to complete Section B, with results broadly similar to their efforts in Section A.