



## A level Biology, Chemistry and Physics Core Practical and CPAC FAQs Revised December 2017

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### Introduction

Before looking at FAQs, it is useful to familiarise yourself with the minimum requirements, in the subject criteria for A level Sciences, for students to pass the Practical Endorsement:

- students must have completed at least 12 practical activities,
- these practical activities must cover all 12 of the mandatory techniques and apparatus listed in Appendix 5c,
- the students must have achieved the 'pass' criteria in the CPAC statements across the practical activities undertaken.

**Remember that the Practical Endorsement applies to A level only. Although students sitting for AS Biology, Chemistry or Physics should still experience practical work as part of the specification, the Endorsement is not offered at AS level. Centres that offer AS - but not A level - would not receive a Monitoring Visit and would not need to make any record of CPAC achievement, except if their candidates intend to proceed to A level after sitting AS.**

### Training

Heads of Department should make sure that all staff in the department - particularly new teachers - have completed our online training. Our CPAC support materials can be found on each A level subject page, by selecting "Course materials" from the grey bar at the top of the page, and then "Teaching and learning materials" from the tabs underneath.

Note that we do not offer a printed certificate to show that you have accessed the training, but we do keep a record of centres who follow the instructions to request access to the training materials.

# Core Practicals

## Do we have to do all the Core Practicals?

The minimum requirement with our specifications, and to qualify for the Endorsement, is for students to have completed 12 practical activities. These 12 activities must also have covered the mandatory “techniques and apparatus” in Appendix 5c. Although it might be possible to omit some Core Practicals - those which cover techniques and apparatus that are well-covered elsewhere - we would very strongly advise you to complete all of them, as knowledge of all the Core Practicals will be required in the written examinations.

## What happens if a student is absent for a Core Practical?

In many cases, the student will want to catch-up on the missed activity, and this should be encouraged. However, this may not be necessary if either (a) the Core Practical that the student has missed covers techniques and apparatus that are well-covered in the other Core Practicals or (b) the student can experience the same techniques and apparatus in a non-Core Practical. If the student does not catch-up on the practical activity, it would still be a very good idea for the student to complete any written assignments based on the Core Practical, in order to prepare them for the written examinations.

Teachers will need to monitor student absences to ensure that all students complete the minimum of 12 practical activities, and that these activities cover the “techniques and apparatus” in Appendix 5c.

## Can any practical work count towards CPAC, or is it just Core Practicals?

Any practical work that students do - whether Core Practicals or other class practicals - can be used to provide evidence for CPAC and coverage of the techniques and apparatus.

## We do not have the equipment listed on one of the Core Practical worksheets. What do we do?

The methods on the Core Practical worksheets are only suggested methods, so you may alter them as required. The only exception to this would be if the worksheet involves the use of apparatus which forms part of the mandatory “techniques and apparatus” list.

## Do students need to pass all the Core Practicals?

The Endorsement is not a series of experiments which act as “hoops” to jump through. Rather, they represent a scheme of practical work which develops students’ skills and competency. It would be expected that students start the course with practical skills appropriate for GCSE but, with teaching and experience, develop them to those appropriate to A level over the two-year course. The final judgement of pass is therefore made holistically.

## Can I demonstrate the Core Practicals?

It is always a good idea to demonstrate new practical techniques to students, so that they can learn how to do them. However, a demonstration does not replace the requirement for students to undertake the practical activity themselves and the Endorsement requires students to do the practical work, not to watch it being done.

Teachers should also note that CPAC competency requires a degree of independent learning - so students performing the experiment in a series of steps alongside the demonstrator is not likely to lead to the required development of practical competency.

# Applying CPAC

## What does a 'pass' look like for each CPAC statement?

We have produced some "pen portraits" which illustrate the standard required to meet each CPAC statement. These are provided as part of the training for CPAC.

## How do we assess our students' work for CPAC?

The key thing to remember is that CPAC is predominantly assessed on what you see the students do in the classroom. It is about the assessment of their hands-on practical skills, and is not intended to be an assessment of their write-up. However, written work can provide supplementary evidence that the practicals were completed.

For Core Practical, and any other practicals that you wish to use as evidence for CPAC, you should note which students are being assessed, and for which CPAC statements. You then record which students met the standard and which ones did not. You will find a tracking spreadsheet on each subject webpage to help you record this information.

There are some exceptions - notably in CPAC 5, but elsewhere too - where written work is more likely to form part of the basis of the assessment.

## Do we need to assess all the CPAC statements on every Core Practical?

You can if you wish to - but this may not be manageable with a class containing several students. Also, some Core Practical do not easily lend themselves to the assessment of some CPAC statements. As part of our CPAC tracking spreadsheet, we have suggested a possible method, where three CPAC statements are assessed on each Core Practical.

## How do we record the progress of our students towards CPAC?

You can use a variety of methods, but probably the most straightforward is to use the CPAC tracking spreadsheet available as a download on our website.

## Do we need to annotate student work?

Remember that CPAC is predominantly about what you see, so there will often be little evidence in written work that can be used to justify the decision to award a pass for a particular CPAC statement. However, you may find it useful - especially in the first year or so of the course - to make some annotations, which could then be discussed with your Monitor during the monitoring visit.

## The CPAC mapping on the practical worksheets is not the same as that on the tracking spreadsheet. Is this a mistake?

No: the worksheets show a wider range of CPAC statements that could be assessed as part of that practical, whereas the tracking spreadsheet takes a simpler approach. If you wish to assess all the CPAC statements on the worksheets, then you can edit the tracking spreadsheet by un hiding the relevant columns.

# The practical endorsement

## What grades are available for the Endorsement?

The only levels of achievement are 'pass' and 'not classified'.

## Does the Endorsement affect the grade my students get for the subject?

The Endorsement is reported separately to the grade for the subject, and so has no effect on the grade achieved.

## Can students pass an A level if they do not pass the Practical Endorsement?

Yes, although failing to pass the Endorsement could affect entry to university courses, if a pass in the Endorsement had been stated in the conditional offer.

**If a student is awarded a U grade, the final certificate for the student will not show any result for the Endorsement i.e. a certificate will not show Grade U + Pass (Practical Endorsement). If the student was at Pass standard, the Pass remains on record, should the student wish to resit.**

## Can a student still pass if they do not complete all the Core Practicals?

If a student is absent and misses a Core Practical, the ideal scenario is for the student to complete the practical another time; however, this may not always be possible. In these circumstances, a student may still be able to achieve a pass as long as they have completed a minimum of 12 practical activities AND these practicals have covered all the techniques and apparatus in Appendix 5c. This means some Core Practicals are essential e.g. the single Core Practical which covers investigating electrochemical cells (Chemistry Appendix 5c, technique #10). A student who missed the Core Practical here would need to do the Core Practical, or another (non-core) practical covering Appendix 5c, technique #10.

## Can a student still pass if they do not experience one of the techniques and apparatus?

No. The regulations clearly state that all the techniques and apparatus in Appendix 5c must be covered by students' practical activities. If there are unavoidable reasons why you cannot carry out practical activities involving any of the techniques and apparatus, then you should contact the Science team at Pearson. Note that unavoidable reasons would not include the centre lacking the apparatus, but would cover e.g. a local legal restriction on certain apparatus or equipment.

## Can a student still pass if they do not demonstrate competency in one of the CPAC areas?

Part of the pass criteria include the idea that students "consistently and routinely" demonstrate competency in the CPAC skills. You may find that a student has only started to meet the pass level in one or two CPAC areas right at the end of the course - but your professional judgement is that, having mastered it, any further work would be "consistent and routine" and that the student should be given a pass. However, if more significant gaps in CPAC competency existed, it would be difficult to justify the award of a pass.

## Can we simply not enter our students for the Endorsement?

Centres who do not attempt the Core Practicals or do not assess their students against the CPAC statements are in breach of the regulations for the revised A level. The regulator has outlined a series of sanctions which would apply to centres in this case.

# The monitoring visit

## When will my monitoring visit take place?

Every centre offering A level Sciences will receive a visit once in a two-year cycle. The new cycle of Visits runs from October 2017 to March 2019. Centres will receive 2 - 3 weeks' notice of the monitoring visit, so that a mutually-convenient day may be found to suit the centre and the monitor.

## Will all departments have a monitor?

No: each centre receives one visit - this would normally be to a different science department to that visited in the first cycle. The exceptions are:

(1) large centres (more than 140 candidates entered in any of the science subjects); and centres where there are concerns about the quality of the practical work / CPAC assessment taking place. In both these cases, all three science departments would have a monitoring visit.

(2) centres that offer A level in only one science. In this case, the visit will be to that subject.

Note that centres that offer AS subjects only do not require a monitoring visit.

## Who will the monitor be?

Monitors are recruited by each Awarding Body, and undertake the monitoring visits for that Awarding Body only. They will be teachers with experience of exam marking or coursework moderation.

## Can we ask the monitor for wider advice about practical work across our science departments?

The primary purpose of the monitoring visit is to check the assessment of practical work, not to offer training. The monitor may give some feedback as part of the written report to centres. As centres may use different Awarding Bodies, with slightly different requirements, across the three sciences, the monitor will only visit and comment on the individual department that he/she was sent to monitor. Monitors have been instructed not to interact with teachers of the two science subjects that they are not visiting.

## What will the monitoring visit consist of?

The monitor will want to see a practical lesson taking place and look at student practical work (lab books or folders). The monitor will also want to talk to the Lead Teacher for the subject being visited. A typical visit may take between 2 and 3 hours.

## What evidence of practical work and CPAC will the monitor want to see?

Other than your students' work, the monitor will want to see your schemes of work, showing that the Core Practicals are being taught; attendance registers for Core Practicals; details of which CPAC statements were assessed in each practical activity; and any guidance that you have provided to prepare your students for practical work.

## How do I make sure that I'm registered for the monitoring visit?

If you entered candidates for A level in 2017, then we will automatically have your details and you don't need to register. If your centre is offering A level Sciences for the first time, please contact the Awarding Body whose specification you are delivering, in order to be added to the list of centres.

## What happens if we've changed Awarding Body in the subject visited?

When the Monitor contacts you, let him or her know that you've changed Awarding Body. The Monitor will let your new Awarding Body know. If you're still "mid-switch" i.e. Year 13 are with your old exam board and Year 12 with the new one, we're likely to delay your visit until the second year of the current visit cycle.

## Resitting and transferring candidates

### Can students resit the Practical Endorsement?

Yes: students can resit the Practical Endorsement. However, the Endorsement is only available as part of the whole A level, not as a separate qualification. Therefore, a resitting student must take all components of the A level as part of the resit i.e. must sit the written units again.

### We have a student who did not pass the Endorsement. Do we need to take all the core practicals again?

Not necessarily: the key thing is that the student ends up being competent in all the CPAC skills and all the techniques and apparatus. This may be possible by repeating only some Core Practical, or by completing additional non-core practicals.

### What happens to a student who passed the Endorsement but wants to retake the exams to improve his or her grade?

If the student has already achieved the Pass standard for the Endorsement, there is no requirement to repeat any practical work. The Pass for the Endorsement can be transferred forward, so that the student takes the written papers only. When entering the student, make sure that you select the transferred Endorsement entry option.

### We have a student who took AQA Biology A level, but is resitting Edexcel Biology at our centre. What happens to the Endorsement?

This depends on whether the student achieved a Pass grade in the Endorsement - you will need to check with the student, or their previous centre, to find this out.

(1) If the student has a Pass for the Endorsement, this can be transferred between different exam boards, as the assessment criteria for the Endorsement are common to all Awarding Bodies. In this case, let us know that you have a candidate transferring from a different exam board and enter the student for the transferred Endorsement entry option.

(2) If the student has not achieved the Pass grade, then the student would need to be entered for the Endorsement as well as the written exams. As the host centre for this candidate, you would need to make arrangements for this student to access practical work to complete the requirements for the Endorsement.

### We have just taken a Physics student into Year 13 who did OCR Physics in Year 12 at another centre. What do we do about the Endorsement?

As you are the centre making the entry for the candidate, you need to be confident that the student has met the requirements of the CPAC. Ideally, the transferring student will bring across the lab book used at the previous centre; but you may need to contact the original centre to get records of CPAC assessments made in Year 12. The Year 12 practicals that the student completed at the original centre should still meet the skills required for Edexcel Physics, as these are common across Awarding Bodies. So you can simply assess the student on the Year 13 practicals and add your evidence to that from the previous centre. If there is no record of the student's previous practical work, then you would have to repeat AS practicals to meet the requirements of the Endorsement.



## Private candidates and international centres

### Our centre prepares private candidates. What do we do about the Endorsement?

The answer depends on the exact nature of your centre.

**(1) If you prepare candidates for examinations, and the students sit exams at your centre (i.e. you are a registered centre with a centre number), then the same regulations apply to you as apply to all other centres.**

In this case, you would enter for the practical endorsement and would have a visit in the same way. We appreciate that some centres in this position have made arrangements to cover the core practicals in a continuous block of time, so that your visit needs to be scheduled to fit this pattern. As long as we're aware of this, we can make sure that we visit you at the appropriate time.

**(2) If you prepare candidates for examinations, but the students sit exams as private candidates at a host centre (i.e. you are not a registered centre yourself).**

The arrangements for monitoring visits only cover registered centres so, if you wish to offer the Endorsement, you need to contact us and find out how to be registered as a centre. Any organisation that offers A level science tuition has a duty to its students to provide provision for the practical Endorsement, or to assist students in accessing this elsewhere.

Past experience is that host centres who accept private candidates usually do so for written exam papers only. It may be hard to find a host centre that is prepared to accept students for the Endorsement - although some private tutorial colleges do offer this service for a fee.

### Our centre has been approached by a private candidate. Can we accept and make an entry for this student?

Centres who have had a successful monitoring visit may accept and enter any candidate that they wish. You will be responsible for entering the candidate for the Endorsement as Pass / Not Classified, so you should be confident that any practical evidence supplied meets the CPAC requirements. You should discuss practical work with the candidate and be prepared to find a way to offer access to practical work - although some private candidates may waive their right to access practicals. If a centre enters a private candidate, but has not had a visit, then a monitoring visit would be triggered. If the centre is not offering practical work, this could be considered malpractice.

### What will happen for International centres?

Where possible, we would like to undertake visits to international centres. However, we have to balance the cost of these visits against the number of students entered by the centre. This may mean that the visit is replaced by an online discussion between the centre and the monitor, and with a submission of some student work. If you are in any doubt, please get in touch with our science team.

We would advise international centres to monitor their students' work and keep appropriate records, just as UK schools are doing.



**Got a question that's not on the FAQs yet?**

Just ask our expert science team, by emailing  
[TeachingScience@pearson.com](mailto:TeachingScience@pearson.com).

