

## **A level Biology, Chemistry and Physics Core Practical and CPAC FAQs Revised September 2024**

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### **Introduction**

Before looking at these 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 aspects of each of the 12 mandatory techniques and apparatus listed in Appendix 5c,
- whilst carrying out these practical activities, and any others, the students must have routinely and consistently achieved a 'pass' in each of the eleven CPAC statements.

### **Training**

Heads of Department must have completed the training, and it is a very good idea if all staff in the department - particularly new teachers - have completed it also.

Our CPAC support materials can be found on each A level Science subject page on the Pearson Qualification website: [Pearson qualifications | Edexcel and BTEC | Pearson qualifications](#). Instructions on how to access the training materials, titled 'Understanding CPAC – Training Materials', is available in the 'Teaching and Learning materials' section under the 'CPAC guidance and tracking' dropdown.

Please follow the instructions shown which will give you access to the recording of the training.

# 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. Your learners can complete any practical activities, and these can be none, some, or all the Core Practicals but every learner must have covered the mandatory “techniques and apparatus” in Appendix 5c. By completing all of our Core Practicals you can be sure that each learner will have satisfied the requirements of Appendix 5c, whilst having sufficient opportunities to learn and demonstrate competencies.

Although it might be possible to omit some Core Practicals - those which cover techniques and apparatus that are well-covered elsewhere - we would strongly advise you to complete all of them, as experience of the practical techniques will be required in the written examinations.

## 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. Progress is best judged by considering passes for the criteria as these are met. The final judgement of a 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.

## How can I use the video materials shown in the playlist?

On each of the subject websites there is a playlist of videos of the Core Practicals. A lot of videos were made during the Pandemic and our playlists show where you can access them. They provide a good introduction to the practical and you can ask students to look at them in preparation for their own work. They cannot be used as a substitute for the student carrying out the practical activity themselves, as it is their own practical competence that gains them the Practical Endorsement.

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

# Applying CPAC

## Where can I find guidance on interpreting the criteria?

The Lead Monitor’s report has an appendix which offers guidance on using the individual criteria to assess learner competence.

## 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. Some of these are provided as part of the training for CPAC and there are further examples on the CPAC section of the website in a document labelled ‘Pen Portraits – further guidance’. These build on the guidance shown in the Lead Monitor’s report.

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

The key thing to remember is that CPAC is based on what happens in the laboratory and so the emphasis is on watching learners and recording their competence. The evidence can be gathered visually and from written work although a formal ‘write up’ is not at all necessary to acquire the CPAC evidence needed. Five of the criteria require visual evidence and five can be assessed from the learners’ written records. CPAC 2c requires written and visual evidence. There is a document available on the website, titled ‘Assessing CPAC: where to look for evidence’.

The emphasis must be on contemporaneous records kept by both learner and teacher. The teacher’s record should show which learners are being assessed and which criteria are being used and should be populated with details of which criteria were ‘met’ by which students. The student’s record will contain a table of the readings taken, CPAC 4b covers this, and perhaps a plan and a risk assessment, all of which should be completed before the practical work starts.

## Can we select which criteria we want to assess with each practical?

There is a document on the website titled 'CPAC and 5c mapping – revised'. This sets out a suggestion of which criteria are assessed with each practical, but it is only a suggestion, there is no 'correct' way of doing it. We would recommend that you do your own mapping. You might well think four or five criteria can be assessed in any one practical. We would suggest no more than one visually assessed criterion though or the workload becomes too great, unless it is a very small set. If you are choosing your own criteria you should ensure that each criterion statement is covered enough times in both Y12 and Y13, at least twice.

The mapping of the techniques and apparatus shown in Appendix 5c depends on the apparatus and methods used and this is not variable. If you are using practicals other than the core you will have to assess which columns are ticked and ensure that there is a tick in each column.

## Should students work individually?

Each learner will be awarded, if they pass, their own Practical Endorsement showing that they can individually demonstrate competence in the laboratory. It is best that they work individually and your assessment of them will be uncomplicated. On some practicals the method might require more than one pair of hands and, just occasionally, there might not be enough apparatus for all learners to work alone. In these cases, it is important that the teacher record shows that each learner has been seen doing what the pen portrait suggests is required for a pass.

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

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. Only make entries on the individual CP pages, do not make entries on the summary pages or the data transfer will be affected, and the summary pages will not work. These summary pages show the progress each student is making towards suitable passes in all the criteria and which practicals have been missed. This makes managing large classes much more reliable.

Annotating the student work where the credit is earned can be most helpful to learners' progress, so, "✓ 4b" where the table of readings is drawn will do well as will a "✓ 2a – seen" at the top of the work for a visually assessed criterion. A copy of the mapping document attached to the learner's record will enable them to follow their own progress as they copy the annotations onto it.

## The CPAC mapping on the practical worksheets is not the same as that on the tracking spreadsheet.

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, or your own mapping, 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.

## What is the Head Teacher's Declaration form?

This is a declaration by the Head Teacher confirming that all the arrangements for the award of the Practical Endorsement to their learners have been carried out according to the regulations and that the work assessed has been that of each individual. Please note the completion and submission of the declaration by the 15<sup>th</sup> of May each year is mandatory. There is a copy of the declaration in the CPAC section of the Pearson subject website.

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

Yes, the Endorsement does not impact the final grade awarded so receiving a 'Not Classified' in the endorsement would not prevent the student from receiving their passing grade.

If a student is awarded a U grade in the exam, 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). However, if the student was at a 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 ionising radiation – physics Core Practical (CP)15. A student who missed the CP15 here would need to do CP15 later, or another (non-core) practical covering Appendix 5c, technique #12.

## 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 learner's 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.

The specification says that one aspect required to pass the Practical Endorsement is that the learners ‘consistently and routinely meet the criteria...’. How should we interpret this?

Your assessment of student competence is a professional decision made holistically at the end of the course – decisions must be entered online by May 15<sup>th</sup> of the learners second year. Your learners will have started the course with a competence level well below what is required at the end. They will make progress, which you record, and, as a rule of thumb, if they meet each criterion at least twice in Y13 then your judgement will probably be that they have demonstrated sufficient competence.

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

You may find that a learner 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.

Some of my students do not continue the subject beyond AS level, can they be awarded the Practical Endorsement.

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.

Can we simply not enter our students for the Endorsement?

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

## The monitoring visit

When will monitoring visits take place?

Every centre offering A level Sciences will receive a visit once in a two-year cycle. Cycle 5 completes in May 2025 and cycle 6 will begin in September 2025, ending in May 2027, and so on. Visits are arranged to be mutually convenient for your centre and the monitor allocated to you.

The visits should run in rotation in alphabetical order so that a Biology visit in one cycle is followed by a Chemistry visit in the next cycle and Physics follows in the third cycle. In this way all three subjects are visited in six years and there is usually six years between consecutive visits to a particular subject.

## How is the monitoring visit arranged?

Your exam officer should receive an email at the start of each cycle, usually in October, informing them of any Pearson visit due to take place in that 2-year cycle. The exam officer is asked to confirm that your centre expects entries in that subject, and we ask for contact details of the Lead Teacher in the subject to be visited. The monitor allocated to your centre will then write to the Lead Teacher to introduce themselves and will tell you roughly when to expect a visit. On receipt of this email you can contact the monitor to point out any particular circumstances that might affect the timing of the visit. For example, if it is the Lead Teacher's first term in post, please tell the monitor who will ensure the visit does not take place during that term. If the visit is to be in the 2<sup>nd</sup> year of the cycle, there will be a follow-up email sent closer to the time.

## 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 very experienced subject specialist 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 sent after the visit.

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 qualification that they were sent to monitor.

## What will the monitoring visit consist of?

The monitor will want to see CPAC assessment taking place in a practical lesson and look at student practical work records (lab books or folders). The monitor will also want to talk to the Lead Teacher for the subject being visited. A typical visit will not take more than four hours and may take somewhat less.

Before the visit the monitor will ask for the work record of one student to be scanned and sent. This has proved to be highly effective in improving the effectiveness of the visit for both the monitor and the centre, as the monitor can prepare much more fully before arriving. The monitor writes a report which is sent to the Lead Teacher and the Head, usually within a week of the visit. A copy of the blank report form is available online at the CPAC section of the subject website.

## 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. Much of this will be shown on the Pearson spreadsheet, which is available online with instructions on its use. Your monitor will also ask for this to be sent before the visit.

## What happens if we change Awarding Body in the subject we are to be visited for?

Please inform the new Awarding Body as soon as your decision to change is definite. Please also inform your monitor when they write. Visits take place in the year you are entering candidates, so you will usually have a year's notice to inform Awarding Bodies.

## 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 sat an A level with a different Awarding Body but is resitting with Pearson Edexcel. 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 student into Year 13 who did Year 12 with a different Awarding Body 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 the Pearson Edexcel qualification, as these are common across Awarding Bodies. You can then 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) - The same regulations apply to you as apply to all other centres. The onus is on your centre to ensure that all candidates private or otherwise are given opportunity to access the Endorsement. This can be by:

- offering the candidate the opportunity to complete the Endorsement at your centre, in which case, you would enter for the practical endorsement and would have a visit in the same way.
- an arrangement with a third-party provider of the Endorsement, either arranged in centre or by the candidate as a private arrangement. In either case you should check that this provider is registered as such with the Awarding Body you use. You will be required to, as the centre making the entry, sign the Head Teacher declaration and confirm whether the Endorsement was passed or not.

Failure to do so may find you in breach of the regulations for the current A levels.

Please note, if you do not provide facilities for practical work there will not be a visit.

**(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.

## We want to offer all our practical sessions in one block of practical lessons, can we do so?

We appreciate that some centres in this position have made arrangements to cover the core practicals in a continuous block of time. Provided enough time is allowed for candidates to show competence with each of the criteria “consistently and routinely” then this will be fine. You will need to ensure that your visit is 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.

## What happens for International centres?

Many International centres have decided to enter their candidates for the International A level which has no Practical Endorsement.

International Centres that enter for the Home A level will be visited, as described above, with the exception of the nature of the visit. These centres should keep records of the appropriate practical assessments they have made, as described above, but the visit will be a remote visit with the only difference being that there will be no observation of a practical assessment. The meeting will take place via Zoom or Teams etc and the monitor will need to see your records, scheme of work and spreadsheet, and will need to see some student work. The amount needed will depend on the number of teachers and of teaching sets and will enable the monitor to look at standardisation and consistency of standards. This will enable the monitor to concentrate on the non-visually assessed criteria and they will also want to discuss how the visual assessments are made. Pen portraits will assist this discussion as they will show standardisation.

We developed this style of visit during the pandemic and are happy that it is an appropriate way to look at a centre’s provision for their award of the Practical Endorsement.

It should be noted that any centre entering candidates is required to offer them sufficient opportunity to do practical work and to be assessed against the criteria. If the centre is not offering practical work, this could be considered malpractice.

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

Home and international 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. We recommend for these centres to direct candidates toward the IAL Science qualifications instead.



**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).