



A LEVEL BIOLOGY, CHEMISTRY & PHYSICS

LEAD TEACHER GUIDE

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INTRODUCTION

This short guide is designed to be of some assistance to Lead Teachers, to help you run effective practical work in your schools; but also to provide some guidance on the new system for assessing practical skills (CPAC), and in preparing for your monitoring visit.

Don't forget that a range of other resources also exist to help you with aspects of practical work and CPAC. These include:

- ❖ Practical Guides for you, and for your students
- ❖ FAQs on the new CPAC system for Practical Endorsement
- ❖ A tracking spreadsheet for you to record CPAC information for your students
- ❖ Access to training materials on the use of CPAC

You can find these resources on each of our A level subject pages. Simply click on the tab called "Teaching Support" and then on the link for "Preparing for practical work". You should then be able to browse all the support materials. One of the most important links – entitled "View the CPAC criteria, guidance and tracking support" can be easy to miss! It's just at the bottom of the first paragraph, and the link takes you to a separate page for 'CPAC guidance and tracking'. If you'd rather simply click a direct link to find all the resources, you'll find all the links in the "[Useful links](#)" section at the back of this document.

THE ROLE OF THE LEAD TEACHER

This may vary from centre to centre: but, at the most basic level, the role of Lead Teacher is to be the intermediary between exam boards and the centre i.e. the Lead Teacher is the initial point of contact for exam boards when contacting a centre.

Some centres have organised a single Lead Teacher - often the Head of Science - who takes responsibility for the role across the three sciences. If all three science A levels are with the same exam board, this may have some advantage; although, as will become evident, there are also some advantages to each subject having its own Lead Teacher, regardless of exam board chosen.

In many centres, the Lead Teacher will be the Head of Department for each science. This is a good idea, not just because the Head of Department is the most obvious contact, but also because they are best placed to cascade any information and training to the rest of the Department. The Head of Department is also in a good position to ensure that all members of the Department are using the CPAC statements and keeping appropriate records of practical skills. However, any teacher can perform the role of Lead Teacher.

If you have more than one teaching set in your centre, then it is a good idea for the Lead Teacher to have a role in ensuring a degree of common practice - or standardisation - within the teachers responsible for each subject (and, ideally, across all three science subjects). You'll find this helpful during the Monitoring Visit, as the Monitor will want to look at samples of student work across all the teaching groups in a centre.

Although the Lead Teacher is the first point of contact for the Monitoring Visit, it is not automatically the case that the Monitor will attend a practical session with the Lead Teacher's class. The Visit can be arranged to correspond with a practical session involving any teacher in the subject being visited. However, the Monitor would expect to spend some time, during the Visit, talking to the Lead Teacher about the records being kept and other issues to do with the administration and assessment of CPAC within the centre.

SELECTING PRACTICAL ACTIVITIES

In many cases, centres will follow the suggested practical activities laid down in the specification which they are following, as this represents the simplest way of ensuring that they meet the minimum requirements for qualifying for the Practical Endorsement. These minimum requirements are:

- ❖ At least 12 pieces of practical work over the two years of the A level course
- ❖ These practical activities must develop all the skills indicated in the specification (Appendix 5b) as necessary skills for direct assessment of practical skills in students
- ❖ The practical activities must also enable students to gain hands-on practical experience of the 12 techniques and apparatus (which form part of the subject criteria and can be found in Appendix 5c of the specification)
- ❖ Finally, over the course of these practical activities, students should develop and demonstrate competency in each of the areas described through the CPAC statements.

By far the most straightforward way of meeting these requirements is to undertake the suggested ("Core") practicals suggested in the specification. Not only do these activities meet the requirements above, but they are also likely to form part of the assessment of practical skills on written examination papers at AS and at A level. Of course, using these activities as a foundation, you are free to supplement them with any others of your choosing; or to substitute individual practicals for others which develop the same skills and use the same techniques and apparatus.

Of course, schools are at liberty to devise their own scheme of practical work to accompany the A level. This would need to meet the requirements outlined above: it would be the responsibility of the Lead Teacher for each subject to ensure that mapping documents existed to show that the chosen scheme of practical activities did this.

ABSENCES

It is worth saying something here about student absences. Inevitably, some students will end up being absent on days when the class covers a core practical activity. Where possible, it would be good to allow these students to catch up the missed practical - maybe when the other students in the class take the next "non-core" activity. Students will find this useful, as Core Practical activities are part of the specification content, and knowledge of practicals may be assessed in written examinations.

However, in some cases you will deem it unnecessary for the student to undertake a catch-up, because the practical that they have missed uses techniques which the student has demonstrated elsewhere. Do bear in mind, however, the minimum requirement for the Practical Endorsement: a student must have undertaken a minimum of 12 practical activities; and these activities must allow students to develop competency in all 12 of techniques and apparatus laid out (in Appendix 5c) for that subject, as well as allowing assessment of the CPAC statements. Therefore if the missed practical activity is the only one covering a particular technique or apparatus, a catch-up session would be needed.

ASSESSING CPAC

To begin with, let's remind ourselves of what the Practical Endorsement is about.

There is an aspect of the Endorsement which develops skills in using a specific collection of mandatory practical techniques and apparatus. For the most part, within the Edexcel specification, you don't need to worry about meeting this requirement. When we selected our “core” practical activities, we made sure that they encompassed the necessary techniques and apparatus. There shouldn't be any need, therefore, to make copious records showing how students acquired particular skills on a practical e.g. filling a burette, using a pipette filler, reading a thermometer. There may be circumstances when you do decide to record coverage of individual techniques: one will be when student absence means that you have to work out if a student has covered all 12 techniques and apparatus; the other will be when it is evident that a student has not demonstrated ability in one of the techniques and you want to cover it again.

Otherwise, what you are assessing – and what the Endorsement is based on – is the CPAC statements. Although assessing these criteria is a little trickier than having a series of tick lists for the use of apparatus, the CPAC statements are reasonably easy to understand. **One key thing to remember is that the assessment of CPAC involves, for the most part, the assessment of what you see students DO in the laboratory.** Although supporting evidence for your assessment decisions may come from written notes that students have taken when undertaking the practical activities, CPAC is NOT designed to be an assessment of lab books or write-ups.

Support on assessing the CPAC statements has been provided through a series of online training events. If you were unable to attend one of these events, you can download the material from the “CPAC guidance and tracking” page of each of our A level subject pages. Instructions on how to find this page can be found in the last paragraph of the [Introduction](#).

PEN PORTRAITS

One aspect of the training was the “Pen Portraits”. The idea of this document was to illustrate what you might see students doing in the laboratory – and how this corresponds to working below, at and above the level considered appropriate for a “pass” for that particular CPAC statement.

A set of pen portraits was written by each exam board, to ensure that all four boards were interpreting the CPAC statements consistently. This means that, for each CPAC area, four pen portraits exist in the training materials. These portraits illustrate a range of practical activities across the three science subjects.

Note that there is not a series of pen portraits for every practical activity: exam boards wanted to provide a selection as support, but did not want them to replace the assessment of the CPAC statements themselves. However, it may be a useful exercise for your department to write a pen portrait for one or two of the core practical activities.

GROUPS AND PAIRS

Before looking at the individual CPAC statements, it is worth considering the role of pair or group work. Inevitably, because of limitations on numbers of sets of apparatus, there will be some occasions on which students will need to work in pairs, or in small groups, when undertaking a particular practical activity.

It is important that each student within the pair or group is playing an active part in the experiment. There are different ways to arrange this – and some of these can also make assessing CPAC easier e.g. assigning roles to each member of the pair / group and assessing those students on the relevant CPAC statements for their roles. Of course, you could simply ensure that each step involves genuine collaboration (although this may be much more difficult for a group than for a pair). There is probably little point in “re-running” core practicals with the assigned roles for each group reversed – there should be sufficient opportunities across the core practicals to assess each member of the pair of each CPAC statement. Don’t forget that supplementary evidence can also come from non-core practical activities.

THE CPAC STATEMENTS

The CPAC criteria cover different aspects of experimental and investigative practical work. This is easiest to see from the general headings of each group of CPAC statements:

- ❖ CPAC 1: Follows written procedures
- ❖ CPAC 2: Applies investigative approaches and methods when using instruments and equipment
- ❖ CPAC 3: Safely uses a range of practical equipment and materials
- ❖ CPAC 4: Makes and records observations
- ❖ CPAC 5: Researches, references and reports

With the exception of CPAC 1, these are broken down into a number of component statements. (At this point, do check that you have the final version of the CPAC statements – printed copies of the specification were sent to schools after accreditation, but these contain the draft version of the CPAC statements, on which Ofqual were still consulting at that time. The final versions are only very slightly different; but the easiest way to check that you have the final version is to look at the number of statements in CPAC 3: there should be two, 3a and 3b).

For each CPAC statement, let’s look at the wording of the statement, and consider some questions which you can use to judge whether your students are working at the correct standard.

CPAC 1

1a: Correctly follows instructions to carry out the experimental techniques or procedures.

- ❖ Can the student follow a worksheet, or method? (The scaffolding for a worksheet should be appropriate for the experience of the students in the practical techniques covered)
- ❖ Is the student able to do so independently (either individually, or within a pair or small group) without intervention from the teacher?
- ❖ Can the student carry out the steps in the right order?
- ❖ If the technique or apparatus is new to the student, does (s)he seek appropriate guidance?

As with all the CPAC statements, the emphasis is absolutely on the students carrying out the practical work themselves!

CPAC 2

2a: Correctly uses appropriate instrumentation, apparatus and materials (including ICT) to carry out investigative activities, experimental techniques and procedures with minimal assistance or prompting.

- ❖ Can students use a range of apparatus / instruments (including some ICT, such as a datalogger, an app, or a computer)?
- ❖ Do students use apparatus / instruments with confidence and reasonable accuracy?

2b: Carries out techniques or procedures methodically, in sequence and in combination, identifying practical issues and making adjustments when necessary.

- ❖ Does the student carry out steps in a practical in the correct order?
- ❖ Is the student able to carry out steps together e.g. swirl a flask and operate a burette tap; write down a reading whilst still observing the apparatus?
- ❖ Can the student 'fine-tune' the apparatus / technique?

2c: Identifies and controls significant quantitative variables where applicable, and plans approaches to take account of variables that cannot readily be controlled.

- ❖ If appropriate, does the student consider factors that may affect the experiment, so need to be controlled e.g. by using a water bath; or solutions of the same concentration?
- ❖ If not, does the student appreciate the importance of independent, dependent and control variables?

Evidence for 2c may come from written work, such as a planning exercise; or may be ascertained by asking students about control of variable during their practical lessons.

2d: Selects appropriate equipment and measurement strategies in order to ensure suitably accurate results.

- ❖ Can students choose appropriate apparatus? e.g. if the method requires a measuring cylinder to measure 10cm³ of liquid, do they select one of an appropriate size?
- ❖ Can students determine a suitable range / number of results to collect?
- ❖ Are students able to use strategies such as repeat readings and identifying anomalies to improve data?
- ❖ Do students consider how to improve the quality of the data that they collect when they evaluate their results? (Students may, of course, make these adjustments as they undertake the work – in which case, this could also provide evidence for CPAC 2b).

Note that CPAC 2 implies a degree of practical work that is investigative, rather than following very prescriptive steps (CPAC 1). If your worksheets are heavily scaffolded, you may wish to remove some of it, or supplement the practical with e.g. a planning activity before issuing worksheets.

CPAC 3

3a: Identifies hazards and assesses risks associated with these hazards, making safety adjustments as necessary, when carrying out experimental techniques and procedures in the lab or field.

3b: Uses appropriate safety equipment and approaches to minimise risks with minimal prompting.

- ❖ Can students identify any risks or hazards associated with the practical activity?
- ❖ Do students work with appropriate care and attention for themselves, for others and for their equipment?
- ❖ Do students use appropriate safety equipment when carrying out practical work?
- ❖ Do students deal with any accident in a calm and effective manner?

Again, you may see students adjust the procedure to make it safer for them e.g. moving a burette down from the lab bench before filling it. Again, this may provide evidence for CPAC 2b.

CPAC 4

4a: Makes accurate observations relevant to the experimental or investigative procedure.

- ❖ Do students take and record some data / observations?
- ❖ Are these appropriate for the task e.g. if investigating the effect of temperature on the rate of a reaction, the data recorded includes temperature and a dependent variable.

4b: Obtains accurate, precise and sufficient data for experimental and investigative procedures and records this methodically using appropriate units and conventions.

- ❖ Can students draw up an appropriate table for the data to be collected?
- ❖ Can students record the data methodically in these tables, with headings and units?
- ❖ Do students collect sufficient data, over a suitable range, and with repeats if necessary?
- ❖ Is data collected to a suitable number of significant figures? (Note that there is no hard and fast rule here – and a range of sig figs may be appropriate for the technique or apparatus).
- ❖ Where appropriate, is the data collected sufficient in number and accuracy to be able to identify patterns or trends in the data? (We wouldn't expect students to get the Data Book value, of course!)

CPAC 5

5a: Uses appropriate software and/or tools to process data, carry out research and report findings.

- ❖ Can students process data e.g. by use of a calculator, data logger or apps?
- ❖ Can students use word processing or spreadsheets to produce a write-up, or a plan?
- ❖ Can students write a short report, including data analysis, for a practical activity?

5b: Sources of information are cited demonstrating that research has taken place, supporting planning and conclusions.

- ❖ Do students use a range of resources, including both print and digital?
- ❖ Do students include some evaluation of data to support conclusions in any write-up of practical activity?
- ❖ Can students use an appropriate format for referencing any research undertaken?
- ❖ Are you able to use the students' referencing system to find the same information?

Note that CPAC 5 can be met by research activity, as well as by conclusions based on their data. You may, therefore, include some research activities alongside practical activities. This could even be in the style of a Visit – Issue Report, which some of you will have experience of from the previous Biology and Physics specifications.

It is also worth noting that we wouldn't expect every practical activity to have a formal write-up: for example, if the practical work only leads to simple observations.

KEEPING RECORDS

As part of the system for using CPAC to assess the Practical Endorsement within A level sciences, centres are expected to keep records of the practical activities undertaken and the assessment of these activities. It is the responsibility of the Lead Teacher to make sure that these records are being kept in a subject, so that they are available to be checked as part of the Monitoring Visit.

The regulations laid down across exam boards indicate the following expectations for centres in terms of record keeping:

(a) documented plans to carry out sufficient practical activities which meet the requirements of the CPAC

Effectively, this is a scheme of work which shows that you're doing the Core Practicals. Although you can have a separate "practical scheme of work", most Departments will fulfil this requirement by indicating, in their main schemes of work, where the Core Practicals are to be delivered.

If your centre is devising its own series of practicals to meet the requirements of the techniques and apparatus and CPAC, then you should also be prepared to show your Monitor how your scheme of work meets these requirements. Of course, if you're following the suggested Core Practicals, this mapping is already provided in Appendix 5 of the Edexcel specification.

(b) record of each practical activity, with student attendance and the date when it was completed

(c) record of the criteria being assessed in that activity

(d) record of which student met the criteria and which did not

Although this sounds like a great deal of work, it's really a simple attendance list for practical sessions, coupled with information on which practical was used to assess which CPAC statements. This information is simple to collate: just use our CPAC tracking spreadsheet! You can find this on the "CPAC guidance and tracking" page. Instructions on how to find this can be found in the last paragraph of the [Introduction](#).

(e) any associated materials provided for the practical activity e.g. written instructions given

(f) student work showing evidence required for the particular task with date

You may wonder why one of the requirements is to collect instructions for the practical activities. To some extent, it provides evidence of meeting CPAC 1 - but it's also useful for your Monitor to see if your students are developing a degree of independence in their practical work.

Otherwise, the requirement here will often go together: your students can keep any worksheets or prompt sheets used for practical work alongside their notes, collected and processed data, and any other aspects of their write-ups. In some ways, therefore, these requirements are the easiest: the students will generate and collect this themselves! However, we know that many centres are unsure of the format that is required. The simple answer is that there is no set format - we want you to keep your students' work in the way which is best for you – and for them. Having talked to a number of schools, two formats for collecting student work seem to be the most popular:

- ❖ on-going lab books or practical folders
- ❖ a separate practical work section within students' folders for the subject.

WHERE TO KEEP THE RECORDS

In some centres, to prevent students losing this record of practical work, the Lead Teacher has decided that lab books should remain in school. This does have some advantages - although remember that students are likely to need some time out of lessons to finish data processing or other aspects of the practical activity; and would certainly want their practical folders to revise for their AS or A level exams.

By the time your students have come to the end of their A level course, you'll already have had your Monitoring Visit, so students can take away their files for revision. We wouldn't expect there to be any need to get practical files back from students after the A level exams; although students who take AS exams then go on to A level would need to retain their Core Practical notes from the AS section of the course.

It's also worth noting that the Endorsement is transferable. So, if you have a student who wishes to resit, this student does not have to go through the CPAC process again (assuming that a Pass was gained first time around!).

Although it is a nuisance if a student loses a file, our Monitors do know that this sort of thing happens from time-to-time, so it shouldn't be an issue that interferes with your Monitoring Visit (unless whole classes of files get lost!).

MARKING AND ANNOTATING STUDENT WORK

Within the new system for CPAC, don't forget the most important thing: why you're undertaking the practical work. It's all about ensuring that students have a broad range of practical experiences and that, if they go on to study science after leaving school, they have the necessary skills in undertaking and reporting practical work. With that in mind, some marking of practical work is to be expected – not so much from a CPAC point of view, but in terms of assessment for learning, or simply meeting most schools' marking and reporting policies.

As has been mentioned before, the written work produced by students is mostly acting as evidence, for CPAC purposes, that the necessary practical activities have been carried out. But, assessing CPAC is not really about marking write-ups, it's about assessing what you see students do in the laboratory. As such, there's no strict requirement, within the CPAC system, for marking student work. Having said that, written feedback on student practical work will undoubtedly improve practical skills, which is the main aim!

Also, some annotation of student lab books or practical work would be useful in the following situations:

- ❖ to allow internal standardisation of CPAC in centres where more than one teacher delivers the A level specification in a subject
- ❖ to provide an easy reference if the Monitor asks to see evidence to support the development of a particular skill, technique or CPAC statement
- ❖ to remind yourself of any visual observations, during that practical, which supported the award of a particular CPAC skill.

The last of these scenarios may be especially useful if you make observations which relate to a CPAC skill which you were not planning to assess on that practical. For example, on a practical where you weren't intending to assess CPAC 3, but where the student provides a risk assessment, or provides evidence of altering a procedure because of a safety issue, then you might wish to note this on their work. That way, if you're looking for further evidence for a particular CPAC skill towards the end of the course, you can more easily find the evidence you need to support it.

THE MONITORING VISIT

It may help to start off by defining the purpose of the Monitoring Visit. Of course, there is inevitably a degree of nervousness about the idea of an exam board representative coming in to look at what you're doing, but we'd like you to consider the Visit as being just as much about support, as it is about monitoring. Secondly, and very importantly, the purpose of the Monitoring Visit isn't to decide on whether your students have "passed" the Endorsement: your Monitor will only see a snapshot, so it wouldn't be appropriate to base the whole Endorsement on that.

So what is the Monitoring visit about? We think it has four functions:

- ❖ to check that you're delivering all the practical work necessary to allow your students to qualify for the Endorsement
- ❖ to see how you're assessing your students on CPAC in a practical activity
- ❖ to check that you're keeping appropriate records of your students' progress through the CPAC statements
- ❖ to share best practice and offer advice on the use of practical activities

As the Monitoring Visit is one of the areas of the Endorsement where teachers have the most questions, it may be easier to consider this section in terms of FAQs.

(a) Who will my Monitor be?

You should have had a communication from JCQ, in the autumn of 2015, asking you to register for the Endorsement by letting them know which subjects you take with which exam board, and who your Lead Teacher(s) are. (If you didn't have this communication, or did not register, then you will not have a visit in the 2015/16 school year - but you will be asked to register again later in 2016 for a visit in the 2016/17 school year).

JCQ then allocate visits to the exam boards, with three rules in mind:

- ❖ each school has only one visit, which could be in Biology or Chemistry or Physics (except schools which have an entry of more than 140 candidates in one of the science subjects, who will get a visit in each science)
- ❖ the subject chosen for the visit is then allocated to the correct exam board for that subject i.e. if a school takes AQA Biology, Edexcel Chemistry and OCR Physics, and the visit is to be made in Physics, then this will be assigned to OCR
- ❖ the number of visits allocated to each exam board in a subject is in proportion to the distribution of schools between the exam boards i.e. if 20% of schools take Edexcel Chemistry, then we would undertake 20% of the visits assigned to chemistry Monitors.

Each exam board has recruited their own teams of Monitors. Our Monitors are all subject specialists – so if your Physics department is having a visit, we'll send a physicist. They are also experienced teachers and examiners.

(b) How is the visit arranged?

Once JCQ has given us our list of allocated centres for the year, we'll contact the centres on our list to let them know that a visit is expected to take place that year. This also allows us to check that centres have been allocated correctly – so please do let us know if there's been an error.

Note that JCQ allocates centres to exam boards for a specific subject: this keeps information about which subjects you take with which exam board confidential. Exam boards must visit the subject specified in the JCQ allocation - even if you take all three sciences with the same exam board.

After our initial contact, your assigned Monitor will be in touch, probably via email. The Monitor would then arrange a mutually-convenient day with you to schedule the Visit. When planning this, remember that the Monitor will need to see a practical lesson (ideally, this would be one of the Core Practicals; but it could be a different practical lesson, as long as you can assess some of the CPAC skills during the lesson). Remember that the Monitor can visit a practical lesson delivered by any member of the department being visited – it doesn't have to be the Lead Teacher's lesson. If your visit is in 2015/16, then the practical lesson must be with Yr 12 (as Yr 13 are taking the legacy specification); in future years, the practical lesson could be with either Yr 12 or Yr 13.

Do check with the Monitor that he/she has the correct address for your centre - especially if you have a split-site arrangement. It is also a good idea to exchange name and contact details in case of a problem on the day. If your centre requires visitors to bring any form of identification in order to register at Reception, please let your Monitor know.

(c) What will the Monitor want to see?

There's no fixed timetable for the Monitor to follow – so this can be adapted to fit the pattern of your working day. However, your Monitor will want to:

- ❖ sit in on a practical lesson in the department, to see the way in which you are assessing CPAC with your students
- ❖ talk to the Lead Teacher about how practical activities are being organised to meet the requirements for the Endorsement. This will include looking at schemes of work to see that practical activities are being timetabled; and may also cover, in larger departments, how consistency of application of CPAC is being managed in the department. Obviously, it's useful to have schemes of work and your departmental handbook ready for this meeting
- ❖ review samples of student work. The Monitor will want to see a minimum of 10 student lab books / practical folders (or equivalent) for the group of students in the practical lesson which was observed. (If this group contains fewer than 10 students, then the Monitor will simply look at the total number for the group). If there are other teaching groups in the same year group, then the Monitor will also want to see 2 student lab books / practical folders (or equivalent) in each set. So, in a school with 4 teaching sets of 12 students, the Monitor would see 10 portfolios of student work from Set 1 (the Set that was observed), and 2 portfolio from each of Sets 2, 3 and 4.

The Monitor will also wish to talk to some students about practical work. Typically, this would be done informally, alongside the teacher, in the practical lesson observed. However, in some cases, the Monitor may request a separate meeting - we would usually expect this to be made clear in advance of the Visit. If a separate meeting with students takes place, this would need to take place in the presence of a member of staff at the school: like any other visitor, the Monitor should not be left unsupervised with students. Of course, this should also apply to the practical lesson itself.

(d) How long will the Monitor be in school?

This will depend a little on the number of students that you have, and the length of your practical lesson. However, we'd suggest that you leave about an hour for discussion between the Monitor and the Lead Teacher, and up to 2 hours for the Monitor to review student work and other records. When you add in the practical lesson, this would give a total of around 4 hours.

(e) What happens at the end of the visit?

Monitors have been instructed not to provide immediate verbal feedback at the end of the visit, either to the Lead Teacher or to senior managers at the school. Shortly after the visit - within 2 weeks in most cases - you will receive feedback on the visit. This feedback will usually be provided to the Lead Teacher.

The feedback will fit into one of three categories:

1. the Monitor is confident that you are undertaking the required practicals, keeping appropriate records and are assessing CPAC at the correct level.
2. the Monitor is generally confident that you are meeting the requirements, but gives feedback on some specific actions for you to consider. Depending on the degree of feedback, the Monitor may ask for a follow-up visit or phone call; although this may not always be necessary.
3. the Monitor has some concerns in one, or more, of the areas of undertaking sufficient practical activities, keeping appropriate records and assessing CPAC at the correct level. Feedback would be provided outlining the areas of concern. A follow-up Monitoring Visit would then be arranged - which may be the same year, but is more likely to take place in the following year to allow time for the feedback to be addressed and implemented.

If a school is having issues implementing practical activities and CPAC in the subject visited, it is quite possible that the other two science subjects have similar issues. Therefore, information about centres in category (3) is shared with JCQ, so that they can alert the Awarding Bodies responsible for the other two science subjects. This may lead to Visits being set up in the other subjects too.

(f) Will I get a visit every year?

The initial agreement is that schools will only have one visit, for one of the sciences, in the first two years of the course i.e. before May 2017. Details of visits beyond this point will be subject to discussion between the exam boards and Ofqual.

If you are a school which fell into category (3) above, then your follow-up visit may take place in the academic year after your first visit.

STUDENTS WITH SPECIAL REQUIREMENTS

As for all examinations, arrangements are made for candidates who have special requirements. Guidelines in this area, across all exam boards, are set out by JCQ.

In many cases, reasonable adjustments may be made for practical activities, as they are for other aspects of the examination procedures. Having said that, some adjustments are not possible - such as having a practical assistant to help with the manipulation of equipment.

Schools are advised to check with JCQ for advice and guidance in this area. Students who have barriers in accessing practical activities should still be encouraged to take part, as best as they can; but they would usually be registered as "exempt" for the Practical Endorsement.

USEFUL LINKS

[Biology A \(Salters Nuffield\)](#)

- ❖ [Biology A homepage](#)
- ❖ "[Preparing for practical work](#)", where you can find Core Practical worksheets, mapping documents, Teacher and Student Guides to Investigative Skills and other resources
- ❖ '[CPAC guidance and tracking](#)', where you can find the CPAC tracking spreadsheet, FAQs and other training resources

[Biology B](#)

- ❖ [Biology B homepage](#)
- ❖ "[Preparing for practical work](#)", where you can find Core Practical worksheets, mapping documents, Teacher and Student Guides to Investigative Skills and other resources
- ❖ '[CPAC guidance and tracking](#)', where you can find the CPAC tracking spreadsheet, FAQs and other training resources

[Chemistry](#)

- ❖ [Chemistry homepage](#)
- ❖ "[Preparing for practical work](#)", where you can find Core Practical worksheets, mapping documents, Teacher and Student Guides to Investigative Skills and other resources
- ❖ '[CPAC guidance and tracking](#)', where you can find the CPAC tracking spreadsheet, FAQs and other training resources

[Physics](#)

- ❖ [Physics homepage](#)
- ❖ "[Preparing for practical work](#)", where you can find Core Practical worksheets, mapping documents, Teacher and Student Guides to Investigative Skills and other resources
- ❖ '[CPAC guidance and tracking](#)', where you can find the CPAC tracking spreadsheet, FAQs and other training resources