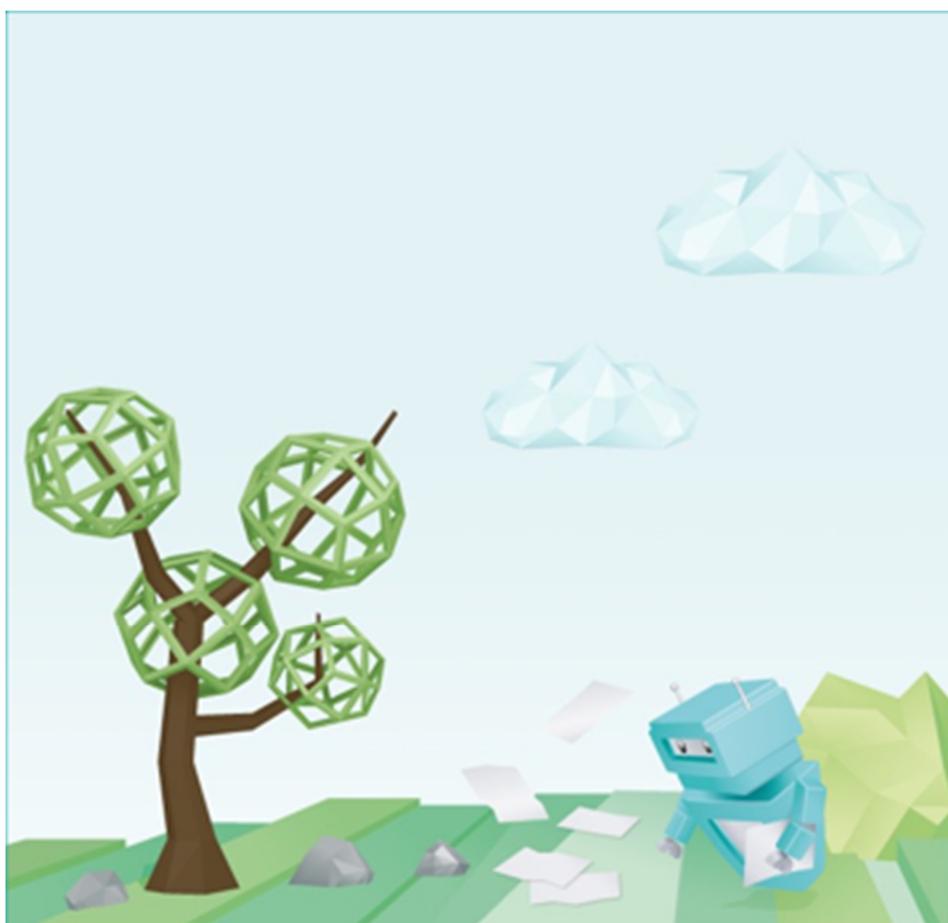


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Phys-Chem

How to get a H1 in the Leaving Cert
Phys-Chem Exam



by **Clíona C.**

Clíona got a H1 in her higher Leaving Cert PhysChem paper. She's now studying Human Nutrition in UCD. Here she shares what she learned.

PhysChem is a great subject for those who are interested in science to get a feel for both physics and chemistry. Many students struggle with honours physics and honours chemistry at leaving cert level and I think PhysChem as a combined subject is a little less challenging than the straight sciences. It is ideal if you want to go into the field of science at third level as you'll have a good understanding of both sciences under one leaving cert subject. It was one of my favourite subjects in 5th and 6th year and with the right techniques I think you can get on really well in it. Hopefully this guide will help you to do so!

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The Layout of the Paper

It's important to be familiar with the layout of the PhysChem paper before the exam. The paper is divided up into 2 sections:

- o Sec 1 – Physics (200 marks)
 - o Sec 2 – Chemistry (200 marks)
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- You must answer 3 questions in each section, so that's 6 out of 12 questions in total. Questions 1-6 are the physics questions, and questions 7-12 are chemistry questions. Question 1 and Question 7 are short questions in which you must answer 11 out of 15 parts.
 - Questions 2, 3, 4, 5 and 8, 9, 10, 11 are based on a single topic or chapter. These can be very predictable so I would advise looking over past exam papers and you'll see a repetitive pattern of topics in these questions over the years. For example, Q2 is generally on Mechanics and Q9 is usually on Acids & Bases.
 - Finally, in questions 6 and 12 you have a choice of parts to answer similar to Q1 and Q7. However, it is very important to realise that in Q6 you must answer 2 out of 4 parts but in Q12 you must answer 3 out of 4 parts. It is easy to trip up on this in an exam situation and accidentally only answer 2 parts in Q12. Make sure this doesn't happen to you on the day!



Timing

- Unlike other exams in the leaving cert, you shouldn't be under any serious time pressure for PhysChem. The exam is 3 hours long and I'd advise to spend equal time on both sections, as they are equally marked. Everyone works differently but as a general time guide, I'd recommend spending 15 mins at the beginning picking out the questions you think you'd score the highest marks in. **Put a line through questions you haven't covered or don't feel confident answering and move on.**
- Personally, I wouldn't recommend answering extra questions because at the end of the day, you can only be awarded marks for 6 questions so there isn't much point in answering 7 or 8 questions. If you **take your time with the questions and answer them to the best of your ability** you shouldn't be left with loads of time at the end. I think it's better to **spend a good 15 mins at the beginning to read all of the questions** and to make a sensible choice on which ones you intend to answer, as opposed to doing extra questions.
- In regards to timing for questions, I'd recommend spending 80 mins on Section 1 and 80 mins on Section 2. Roughly that's about 26 mins per question. This is plenty of time and as you practice exam papers you'll see that you can take your time with questions and answer them well without being under any major pressure. This leaves you with 5 mins at the end to read over and review your paper.

To recap:

- 15 mins – Read paper & select Qs
- 80 mins – Sec 1 (Physics)
- 80 mins – Sec 2 (Chemistry)
- 5 mins – Read over



How Should I Study?

Here are the practices I followed when studying to help me get the H1.

✓ Don't Study the Entire Course:

- PhysChem differs from the other subjects in the leaving cert and schools have different approaches to the PhysChem course. As I've mentioned before, you must only answer half of the paper so many schools only cover certain chapters due to this. However, some schools cover the entire course so that you have plenty of choice on the day.
- From my own experience, I would strongly advise not to cover the entire course when you're studying. I found it is best to **prepare about 4 questions in each section when you're studying** rather than having the whole course done, as it's just not necessary. You can't answer every question on the paper so I think focusing on certain chapters that suit you is a better option.

✓ Work on your Weaker Subject:

- It's likely you'll enjoy one of the sciences more or find one of them easier to study, but it is key to give time for both sections of the course when you're studying. As I've mentioned, the sections are equivalently marked and you must be strong in both to do well. If you find you're struggling at one more than the other, **give yourself extra time** to work on it.
- Personally, I found Chemistry to be more challenging than Physics so I gave a little extra time to Chemistry when I was studying so that I could get it right. You can't rely on knowing one of the sciences inside out and the other not so well if you want to achieve high marks.



✓ Nail the Basics:

- A little bit of hard work in this subject goes a long way and getting the basics right is crucial. If you have a look at the marking schemes, you'll see that marks are awarded quite generously. For example, even if you may not have gotten a full definition correct marks are awarded for any correct key words you have written down. A good understanding of the basics can get you a lot of marks in the PhysChem exam.

✓ Use Exam Papers and Marking Schemes:

- With regards to studying PhysChem in general, I think marking schemes and exam papers are the key to this subject. If you **take the time to go through the past papers as you're studying the chapters**, you'll see just how repetitive questions are from year to year. You'll see the exact same style of questions coming up again and again. This will give you a really good idea of what to focus on and when you're studying.
- I'd advise having a **look at the marking schemes too to get a feel for the precise answers and keywords your examiner will be looking for**. Practice, practice, practice! Keep doing exam paper questions and correcting your work with the marking schemes, and trust me, this will pay off in the end. It's a great way to test yourself to see if you really know a chapter after revising it.

✓ Be Prepared for the Graph Questions:

- Graph questions are very common on the PhysChem paper. In the exam, in case the examiner doesn't hand out graph paper you **must** ask for some! Be sure to bring a full-sized ruler with you for drawing graphs. Generally, you're given a table of information and you're simply asked to graph the results. If done well, this is a very easy place to pick up a lot of marks.
- However, you have to watch out before diving into drawing your graph. Often units or



results must be changed, for example in the questions on the Snell's Law experiment, they could give you the angles and you must work out the Sin of the angles before graphing the results. In graph questions, if it says "draw a **suitable** graph" the word suitable usually means that something has to be changed before you draw your graph. Watch out for this as you'll lose a lot of marks if your graph is not accurate.

✓ Get Comfortable with Switching Units:

- Across both sections of the paper, students can often trip up on units. Sometimes I think they try and trick you with a very simple question, but the units must be changed to the correct SI units. I'd advise you to be confident with your ability to switch units around going into the exam as this is an easy place to throw away marks, even if everything else you did in the question was correct.
- It's also important to **be familiar with your log tables** and to know where to locate the formulas you'll need in the exam. If you don't have a copy of an SEC log table, I'd advise that you pick one up to have at home so that you're familiar with it by June. You don't want to be wasting precious exam time flicking through the pages of your tables. You should **use your log tables when you're studying at home** to avoid this.



Some Final Tips

- Flash Cards:

- I used a serious amount of flash cards when studying PhysChem. I found it really useful to have all of my **definitions and key points** on flash cards and I think this made it easier to learn them off.
- Leading up to the leaving cert, I stuck some flash cards around my house so that I could subconsciously learn the information off after looking at the different flash cards every day. This might not work for everyone, but coming up to the exams this really helped me to learn those tough definitions and formulas when it seemed like they just weren't going in.

- Experiments:

- I'd advise to be very confident on the experiments in both physics and chemistry. There are quite a few physics experiments and some can be difficult, but I'd really advise you to **be able to draw the diagram for any experiment that could come up**.
- You can achieve high marks for simply drawing a clear well labelled diagram and I think it's worth learning these off really well.
- There aren't as many chemistry experiments, however **titration is guaranteed to come up every year** and it's usually question 9 on the paper. Have a look over exam papers and you'll see the titration questions are very similar each year. I'd recommended practicing these exam questions and knowing this well, as it's generally a nice question.

- Stay Motivated:

- It's likely PhysChem will be your final exam or one of your last exams in the leaving cert. In my case, I had a 4-day break before the exam and I must say it was difficult to stay focused and motivated.
- It's really important to push it out and **use any free days that you have before PhysChem**



wisely. Hopefully at this stage all your hard work will be done and you'll just be reading over notes and brushing up on questions.

- Lastly, the night before the exam I'd recommend focusing on definitions and experiments. **Don't put too much pressure on yourself in the final moments before the exam** as you'll only get stressed out and upset.
- **Remember to pick the questions you're most confident on**, to answer clearly and to take your time.
- Don't forget your **calculator and full sized ruler!**
- Go in with **a positive attitude** and do your very best.





*Finally, I would like wish you
the best of luck in the exam!
You will be fine. 😊*

