A guide to
Finding your
Newly Qualified Teacher job
Learning to Teach Physics

IOP Institute of Physics
Some schools start advertising in January for teaching positions beginning in the new academic year. This can make a trainee teacher feel that they need to hurry to secure a position. But our advice is: don’t be in a rush.

You should only start looking for your first position when you are ready to do so. This might be in January. Or it might be in June, towards the end of your third term.

Initial Teacher Education programmes are relatively short, and you’ll be learning fast. Your first priority should be getting to grips with teaching and becoming confident in your subject knowledge at school level.

Start by looking at ads to get an idea of what schools are looking for. But only start applying when you are armed with some teaching experience and self-knowledge. Hopefully, this way, you’re less likely to waste your time applying for unsuitable jobs. Then you’ll be more likely to perform well in the interviews that you do attend and find the right school for you.

Here is our suggested timetable for job-hunting. It is based on a one-year Initial Teacher Education course. If you are training part-time, use it for your final year of training.

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How will the physics teacher shortage affect you as an NQT?

Before you begin applying for positions, you need to think carefully about the impact that the chronic shortage of physics specialists has had on schools.

The first few years in the classroom are challenging. Having the support you need to develop your teaching skills is vital. Some schools have strong physics departments, with upwards of four specialists. Others have none.

There has been a shortage of physics teachers for many years. Happily, over the last few years, the number of new physics teachers has been increasing. Additionally, programmes from the IOP and other providers have equipped many schools without specialists to teach physics to a high standard.

But the shortfall continues.

NQT physicists

Your skills and potential are in demand
- This means less pressure to accept your first job offer
- You have more space to explore the package on offer such as salary, career progression, how much time you’d be teaching outside your specialism and other responsibilities

Be wary of being the only physics specialist in a school
- This may be an exciting challenge for some NQTs but for others, it may be a lonely and stressful experience
- If you do take a position like this, ensure your employer is fully aware that you may need external training or extra non-contact time
- Request a clear CPD programme or a mentor from a neighbouring school

NQTs with other specialisms

You will probably teach physics to some level
- Find out how much specialist physics teaching there is in the school and think about whether this will be enough to support you teach physics to the required level
- If you are not confident with the subject, being in a school with a strong physics specialist team has two benefits:
  - plenty of support
  - less likelihood that you will have to teach physics beyond the early secondary years

Consider Teacher Subject Specialism Training
- These courses (iop.org/tsst) enable you to add physics to your current teaching specialism

Case study

A recently qualified teacher describes her NQT year and what happened next, plus advice from experienced teachers.

Katie spent her NQT year in a medium-sized arts academy. She was the only specialist physics teacher.

“My PGCE wasn’t plain sailing. I worked long hours and was very tired. My NQT year was much better – I had the freedom to teach how I wanted, I had the consistency of my own classes and I was able to get to know the students. I also had the responsibility of introducing A-level physics in a new sixth form. I thrived and am really proud of what I achieved.

“My NQT+1 year saw me further consolidate my teaching skills but I realised that I wasn’t in the right school for me. I made the difficult decision to change job at the end of the year.

“My new school has a large physics department. Working alongside other physics teachers allows us to share ideas to help our teaching. It also means that there is someone to help with parts of the A-level syllabus that aren’t my speciality.”

A recent NQT

“Physics teachers are very highly sought after – I had five interviews before I decided that where I was was where I wanted to be. I did my NQT there and then the Head of Science post became available. I was advised to apply and got it.”

A retired physics teacher

“I think you can cope with GCSE as the only NQT physicist in a school – after all that is the bread-and-butter side. A-level is probably pushing it too far. A chap with a PhD took over from me as a lone physicist who was an NQT and he really, really struggled.”
Where should I look for a job?

There are lots of teacher recruitment websites where schools advertise positions. Additionally, your Initial Teacher Education provider will also be able to suggest local options. The IOP does not deal directly with teacher recruitment. But we may be able to help in the following ways:

- Your local IOP Physics Network Coordinator (iop.org/network) knows the schools across your region. They will often hear about vacancies and may tell you about the schools first-hand
- Physics teachers post vacancies on our online teacher discussion forum, TalkPhysics (talkphysics.org) and also on our physics teacher email discussion lists (bit.ly/IOPteacherlists)

The recruitment process

The way that schools interview teachers and make job offers may come as a surprise, especially if you are a career-changer.

Schools often like to make appointments on the day of interview. They usually invite all candidates in on the same day and then require you all to stay until they have decided who to appoint. The successful candidate may be expected to decide there and then on whether to accept the position. They do it like this whether recruiting newly qualified teachers or heads of department.

Be as prepared as you can. Find out as much as you can about the school, think about what you would like to ask on the day, decide what salary you would be prepared to accept and determine what your deal-breakers are.

The interview

Use the interview as an opportunity to find out if the school is right for you. Will you fit in? How well will you be supported? How will the school help you to develop as a teacher? Ensure that these are openly discussed in the interview so you know exactly what is on offer.

- **Workload:** How many hours will you be in the classroom? To what level would you be teaching each subject and will you be teaching your specialism at A-level? What duties will there be outside your subject teaching? Preparing lessons and marking can take longer in the first few years of teaching, so ensure this is factored into your workload
- **Training:** Is the mentoring set up and that they suggest enough for you? Will you be able to access your mentor when you need them? What training outside of the minimum NQT requirements will you be offered?
- **Start date:** Try to negotiate a start date at the beginning of July so you can start getting paid, whether on the instructor or main pay scale. This doesn’t mean that you can’t sort out some time off before you start in September

Interview lesson

You will probably be asked to prepare and teach a lesson. If you need some ideas or support, log on to our teacher forum TalkPhysics (talkphysics.org), where you can ask for advice and see what others in your situation have been asked to do.

Explore the working environment

Ask to look around the physics prep room. Does it seem a place where other teachers happily share kit or are they guarding their resources carefully? How would you feel about working with the technicians in this school?

Planning is key to delivering a great interview lesson.

How to handle being offered the job at the interview

If you’re not completely sure on the day, it’s perfectly reasonable to ask for 24 hours to consider an offer or to be allowed to consider overnight. Don’t feel pressured into taking a job that you are offered if it isn’t right for you. ITE tutors and other experienced teachers recommend that you don’t jump at your first job offer. But if you’ve done your homework beforehand and been offered a job that you know is right for you, don’t hesitate to accept it.

How to handle not being offered the job at the interview

Going for interviews at several schools before being offered a post may feel frustrating. But this can work in your favour, allowing you to see a variety of schools and get more sense of what is realistic.
Tips for your interview lesson

We asked physics teachers who are experienced in recruiting new teachers for the low-down on what schools are looking for in interview lessons.

Tips for your interview

We also asked these physics teachers to tell us about what they have asked candidates in interviews and also to reflect on the role of the interview when recruiting a new teacher.

- I would definitely look out for how the lesson is led, not just the rapport (which is important too). Are the students learning? No point in having good crowd control if the students aren’t actually learning.
- What strategies are they using? Is it mainly talk and chalk, or are students actively participating?
- How effectively are questions asked? Are they leading questions? Are diagnostic questions and hinge questions used to elicit students’ previous knowledge and understanding? And are the responses used to determine the direction of the lesson, or are they carrying on relentlessly through their lesson plans, even when learners are not making progress?
- Check out how they question the students. Mix of simple questions requiring simple answers and questions requiring explanations – and don’t take answers from just a few very keen students but direct them around. And if an answer isn’t complete see if they ask another student to help out. Generally involving all the students.
- Do students have opportunities to think for themselves during the lesson and construct their own understanding, or are they simply spoon-fed throughout?
- I look for rapport, awareness and pace. There ought to be reasonable interaction with the students even if it’s unfamiliar children.
- They ought to be aware of what’s happening around the lab.
- I want to see that they set the lesson at the appropriate level for the year group and look confident.
- I like to see some evidence of planning. I’ve observed people who made it up on the way to the interview.
- Anyone can pull off a good lesson if they have time to plan it so I always set a task after the lesson to plan the next lesson based on what they have learnt from teaching the lesson. They also have to mark a piece of work that has been copied from a pupil’s book.
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- Do students have opportunities to think for themselves during the lesson and construct their own understanding, or are they simply spoon-fed throughout?
- We put an apple on the table and invite the candidates to explain what forces are applied on it, then ask them if they are an example of Newton’s 3rd law and explain why they are (if they think they are), or why they are not (if they think they are not).
- There are some important parts of the job that candidates probably won’t get a chance to demonstrate at the interview – how good you are at marking, how much of a team player you are.
- I would ask some simple questions, like how does a circuit work? It’s the quality of the explanation I want. Even if some of the physics isn’t quite the way you’d do it, you ought to be convincing.
- I’d concentrate on how you see them working within my team. They might be really clever but if they will alienate everyone in the department, I don’t want them.
- We give candidates a written task. For example, they have 15 minutes to explain how they would teach refraction over a series of lessons or 15 minutes to write about health-and-safety issues.
- The interview lesson is your opportunity to show off your planning skills as well as your rapport with the students.
How much should I expect to get paid?

Sadly, there are no official pay premiums for physics teachers. But our research shows that the average starting salary for a physics specialist is above the minimum on the national pay scales.

Most state schools decide what salary to offer based on national pay scales, which you can find on the internet. So whether your subject is in shortage or not, they are usually tied when it comes to making salary offers.

This means that a new teacher who went from school to their undergraduate degree to teacher training can expect to be offered the lowest pay point. However, career changers who can prove that previous experience was relevant may be offered a starting salary on a higher level.

To get an idea of what new physics teachers are paid, we surveyed early career science and physics specialist teachers in 2015 to find out what their first salary was.

Here are some findings based on 225 responses from teachers who took up NQT positions in England and Scotland between 2012 and 2015:

- Physics and physics with maths teachers started on an average salary of £24,800. This is about £2,600 more than the minimum point on the national pay scales for England, Wales, Scotland and Northern Ireland in September 2015.
- The full range of starting salaries in our survey ran from £15,500 to £49,000.
- Many teachers had negotiated higher salaries than they were initially offered — although many also found the school had no room for manoeuvre.

A recent NQT advises: “From experience with my colleagues — read your contract before signing it. If you don’t like the terms and conditions, you need to raise these issues before you sign — it’s too late to complain afterwards.”

IOP Physics Teaching Support for NQTs

We have plenty of teaching resources and expert teachers available to help during you teach physics in the early years — and beyond:

**SPT** Supporting Physics Teaching: 11-16

- Our Supporting Physics Teaching resources will help develop your subject knowledge while suggesting teaching approaches.
- Ages 11–16.
  - supportingphysicsteaching.net

**TAP** Teaching Advanced Physics

- Our Teaching Advanced Physics resources contain ideas and support for lesson planning for teaching ages 16+.
  - tap.iop.org

**PTN** Physics Teacher Network

- Our Physics Teacher Network offers free CPD, support and advice via our network of expert teachers across the UK and Ireland.
  - iop.org/network

**SPN** Stimulating Physics Network

- Our Stimulating Physics Network is a government-funded project offering bespoke support for schools with no or few specialists in England. Look out for workshops and CPD open to all.
  - stimulatingphysics.org

**TalkPhysics**

- Practical Physics contains a wealth of proven experiments that will work in any school lab. Includes teaching and learning notes and health-and-safety advice.
  - practicalphysics.org

- TalkPhysics, our digital community of teachers, technicians and supporters, is always online to share ideas, resources and advice.
  - talkphysics.org
Joining the Institute

Membership of the Institute is for everyone who has an interest in physics and its future. We have various grades of membership depending on your specialism and career stage.

- **Member** – for those with at least three years’ post-degree experience during which professional physics skills (this includes teaching) have been acquired
- **Associate Member** – available to physical sciences or engineering graduates. After three years in teaching, you can become a full Member
- **Affiliate Member** – for anyone with an interest in physics but no formal background
- **IOPimember** – an online subscription to Physics World

**Membership benefits include:**
- Access to IOP journals including Physics Education
- Full access to our international magazine Physics World
- Regional networks
- Discounted rates at IOP events and meetings

For more details about joining the Institute, visit [iop.org/membership](http://iop.org/membership).

The Institute of Physics is a leading scientific membership society working to advance physics for the benefit of all. We have a worldwide membership of more than 50,000. Our purpose is to gather, inspire, guide, represent and celebrate all who share a passion for physics.

Alongside professional support for our members, we engage with policymakers and the public to increase awareness and understanding of the value that physics holds for all of us.

Find out about our strategy for success at [iop.org/strategy](http://iop.org/strategy).

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