

www.bpho.org.uk

October 2018

**For Students**

**Congratulations on being selected to participate in BPhO Round 1.**

The competition is designed to challenge and reward the best physicists in British schools. It initiates the selection process for the two UK Physics teams, each of five students, for competing at international level in the **2019 International Physics Olympiad** (July in Israel) and the **International Olympiad on Astronomy & Astrophysics** (August in Hungary). Further information about the BPhO Round 1 competition can be found below and also on our website: [www.BPhO.org.uk](http://www.BPhO.org.uk).

**Who should take the paper?**

Students of any age may participate, but the paper is aimed at those in the final year of school or college education. The paper is designed to test understanding and problem solving skills at an advanced level. Therefore, gaining an award in the British Physics Olympiad is a prestigious and valued achievement for a CV and also for a personal statement in a UCAS application. Participation is a requirement for those who wish to consider advancing on to the **International Physics Olympiad** and also **the International Olympiad on Astronomy & Astrophysics** next year.

**Structure of the paper**

The paper comes in two Sections (1hr 20min each + 5min reading time for Section 2 only) and can be sat in either one or two sittings:

* Section 1: You are given a wide selection of question and can attempt any parts. However, a *maximum mark of 50* can be obtained over all parts.
* Section 2: You choose only TWO long answer questions (out of five) to answer – 50 marks.

**The questions**

The questions allow you to test your knowledge and to practise open-ended and less structured questions, as seen at higher levels of study. The questions are about problem solving and you will be expected to find the appropriate ‘route’ to obtain the solution. You may also need to draw upon different areas of physics to solve a problem. The paper contains a wide selection of questions for you to choose from. This is because you may have covered different material from students in other schools. The choice ensures that there are questions for everyone to answer and you are not expected to have covered all of the topics in the paper.

Please do not be disappointed if you find the paper challenging. It is written to challenge strong students like yourselves, and you will continue to develop your problem solving skills through your studies in physics.

**How to prepare**

Problem solving skills are developed over time, so practice makes perfect. Visit [www.BPhO.org.uk](http://www.BPhO.org.uk) to view past papers with solutions. Work through some problems to familiarise yourself with the style of question.

**Tips for answering the questions**

You must write down the question in terms of symbols and equations, and try calculating quantities in order to work towards a solution. You will need to show your reasoning by showing your working. Even if you cannot complete the question, show how you have started your thinking; with ideas and, generally, by drawing a diagram. Derivations must be thorough, clear and indicate an understanding of the physics and mathematical content. Writing must be legible and the layout easy to follow. Practise this in your work.

**P.T.O**

**Award and prizes**

Over 1,800 students participate each year and awards are allocated based on students’ performance. Each year we allocate the following number of awards; 50 Top Gold, 100 Gold, 100 Silver, 200 Bronze I, 200 Bronze II. All participants receive a certificate and Gold award winners receive a book prize. Taking the risk of participating in the first place is a significant achievement in itself.

**International Physics Olympiad (IPhO) *and* International Olympiad on Astronomy & Astrophysics (IOAA)**

The top 50 students from BPhO Round 1 will be invited to participate in BPhO Round 2. Students have typically achieved a mark of over 80% to qualify for BPhO Round 2.

The route to the IOAA is via **(i)** the Astronomy & Astrophysics A2 Challenge Paper as practice, **(ii)** BPhO Round 1, and **(iii)** an invitation to students to take the BAAO paper in January 2019.

The top 14 students from BPhO Round 2 and the top 14 students from the BAAO (many of the top 50 students from Round 1 actually take both of the January papers) will then be invited to take part in the Oxford training camps held at the University of Oxford from Saturday 13th to Wednesday 17th April 2019. Here the final teams for the IPhO and the IOAA will be selected**.** Students who attend the Oxford Training Camp will also be invited to an awards ceremony at the Royal Society in London on Thursday 25th April 2019.Visit the BPhO website for more information.

**The test date**

Talk to your teacher about the details of the test. It is in your own interest not to discuss the paper online before others have sat it. Your teacher will inform you of the test date and venue, and you can make a note here:

Section 1: Test date…………………………………………………… Time…………………………....

Section 2: Test date…………………………………………………… Time…………………………....

Venue………………………………………………………………………..

**Future dates for your diary**

* BAAO Mon 21st January 2019
* BPhO Round 2 Mon 28th January 2019
* Oxford Training Camps – Round 3 Easter vacation - Sat 13th April to Wed 17th April 2019
* Experimental Training Camp Fri 17th May – Sun 19th May 2019
* Trinity College Cambridge Training Camp late June – end of first week of July 2018 (tbc)
* International Physics Olympiad - IPhO July 2019, Israel
* International Olympiad on A&A - IOAA August 2019, Hungary

Have fun problem solving!

Kind regards,

Robin Hughes

Chair of the British Physics Olympiad

Website: [www.bpho.org.uk](http://www.bpho.org.uk)

Facebook: [www.facebook.com/The.BPhO](http://www.facebook.com/The.BPhO)