

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 UK Physics teams, each of five students, for competition at international level in the **2016 International Physics Olympiad** (July in Zurich, Switzerland) and the **International Olympiad on Astronomy & Astrophysics** (December in Bhubaneswar, India). Further information about the Round 1 competition can be found below and also on our website: www.BPhO.org.uk.

Who should take the paper?

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 for a personal statement in a UCAS application. It 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) 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 40* can be obtained over all parts.
- Section 2: You choose only TWO long answer questions to answer.

The questions

The questions allow you to test your knowledge and to practise open-ended and unstructured 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 will 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 material 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 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.

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 price.

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 usually achieved a mark of over 65% to qualify for BPhO Round 2.

The route to the IOAA is via **(i)** the Astronomy & Astrophysics A2 Challenge Paper for practice, **(ii)** BPhO Round 1, and **(iii)** an open invitation to students to take the Astronomy & Astrophysics Round 2 paper in January 2016.

The top 14 students from BPhO Round 2 and the top 12 students from A&A Round 2 will then be invited to take part in the Oxford training camp held at the University of Oxford from Monday 4th April to Thursday 7th April 2016. 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 28th April 2016.

Visit the BPhO website for more information.

The test date

Talk to your teacher about the details of the test. 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

- BPhO Round 2 Mon 25th January 2016
- A & A Round 2 Mon 18th January 2016
- Oxford Training Camp – Round 3 Easter vacation - Mon 4th April to Thurs 7th April 2016
- Experimental Training Camp Fri 27th May – Sun 29th May 2016
- Trinity College Cambridge Training Camp Sun 3rd July – Fri 8th July 2016
- International Physics Olympiad Sun 10th July – Mon 18th July, 2016
- International Olympiad on A & A December 2016

Have fun problem solving!

Kind regards,

Lena Shams
British Physics Olympiad Secretary

Website: www.bpho.org.uk

Facebook: www.facebook.com/The.BPhO

Charity number: 1146064

The BPhO Office, Clarendon Lab, Department of Physics, University of Oxford, Oxford, OX1 3PU;
01865 272884; bpho@physics.ox.ac.uk