Astronomy Event Guide

Science Olympiad · Division C · 2019

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Overview

Astronomy is a 2-person testing event, usually lasting 50 minutes. Each student can bring either a 3-ring binder of any size or a computer/tablet disconnected from the internet. We strongly recommend using a laptop, as you have access to much more information and do not have to deal with the hassle of printing. Additionally, each student is allowed to bring any type of calculator. The event focuses on 3 main content areas:

- General topics — these are theory-based questions pertaining to an assortment of topics. Many of the areas remain the same from year to year, but some of them do change.
- Math — these are calculations involving the principles of astrophysics and circular motion. In general, these remain the same every year.
- Deep sky objects — these are astronomical objects that you will be tested on. DSO questions involve theory as well as identification.

More information about the event can be found in the rules document for 2019.

How to Prepare for the Event

Wikipedia

Astronomy is a very comprehensive event, covering a wide berth of topics. As such, because it is impossible to have an in-depth understanding of everything you could be asked in a competition, Wikipedia will be your best friend. The offline version gives you a fast and resourceful tool when prior knowledge and studying do not yield the answer. To download Wikipedia:

1. Download Wikipedia.taxi.
2. Go to the WikiTaxi website. Download the Win64 version, and launch the application.
3. Press the Options button in the top-right, click on Open *.taxi Database, and select your Wikipedia.taxi file.
4. You should now be able to search Wikipedia offline.

Some information displays incorrectly, however, so feel free to try other alternatives to WikiTaxi. We used Xowa in addition to Wikitaxi. Installation instructions can be found here.

Notes

Although Wikipedia is a great resource, it should not be your sole source of information. There is no replacement for taking notes. We decided to use OneNote for the following reasons:

- Ability to search for terms and phrases across all documents and PDFs.
- Ability to organize notes using a nested structure.

- Ability to collaborate with teammates, like in Google Docs.

Our OneNote notebook can be accessed here.

Several topics in the Astronomy event remain constant throughout the years. As such, instead of starting fresh with your own notes, it can be useful to have some sort of starting ground from which you can add additional content as you see fit. DSOs rotate per year, and some of the topics change out as well, so make sure not to rely entirely on this resource, and to add your own notes to gain knowledge and understanding.

Tips

General Topics

TBA.

Math

TBA.

Deep Sky Objects

Each year, there are approximately 15 deep sky objects, which vary each year. It is recommended that you categorize the DSOs and then take notes. My procedure for each is as follows:

1. List other designations of the DSO.
2. Summarize important information.
3. Make a table of characteristics/observation data.
4. Do research, and take notes using Wikipedia.
5. List any references that may be useful.
6. Download the Google Images results for the DSO for identification purposes on tests.
7. Download PDFs of any references that may be useful.

Practice Tests

Tests can be found on the wiki or scioly.org. Tests we found useful can be found in the OneNote notebook.

Resources

- Astronomy page on the Science Olympiad wiki — provides a general overview of the Astronomy event, with some useful information.
- Chandra webinars — videos that provide detailed overviews of topics for the event.
- AstronomyNotes.com — great site for getting started with the event and learning information.
- onward to the edge — a site run by Science Olympiad alumni, providing great tips and information.