



STELLARXPLORERS

The National High School Space Challenge



StellarXplorers IV Practice Round 2 (PR2) and Qualifying Round 2 (QR2) Checklist

The primary method to contact the StellarXplorers staff is using the email stellarxplorers@afa.org. Please included your Team Number on the Subject Line of all emails.

This checklist will help you get prepared for both PR2 and QR2 Rounds. You can find much of this same information on the StellarXplorers Website (<http://stellarxplorers.org/>) but this checklist will provide a good overview.

1. Download STK 11.2
2. Obtain Educational License
3. Download and Read Rules Book
4. Train and Practice on STK 11
 - Basic Skills Webinar on You Tube
 - AGI Training Materials
 - STK Certification (optional and not needed for competition)
5. Prepare for Academic Quiz (30 minute timed Quiz for QR2)
 - Understanding Space textbook access
 - QR2 Quiz Study Guide
6. PR2 Competition Period is November 30 – December 3
QR2 Competition Period: QR2 Competition Period is December 14-17





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1. Download STK 11.2: Anyone can download the basic STK software for free. Go to <http://www.agi.com/resources>. Download the appropriate STK 11.2.1 version (without add ons). First click on System Requirements to make sure your computer meets requirements. Some school districts restrict what programs can be downloaded so check with your school IT person. Downloading STK will get you a Basic License, but for StellarXplorers competition, you must also have the Educational License (Item 2).

2. Obtain Educational License: **YOU MUST HAVE THE EDUCATIONAL LICENSE. NO LICENSES WILL BE AVAILABLE ONCE THE COMPETITION PERIOD BEGINS.**

StellarXplorers is a member of AGI's Educational Alliance Program (EAP). AGI offers three types of STK Educational License Suites to EAP members, which are valid until July 31, 2018. Team Directors need to decide which option will work best for your team. Typically, most teams choose a Node-Locked License:

STK Educational License Types

A. "Node-locked License" (most common): This License is tied to a specific computer based on the Computer's Host ID. One advantage is once STK is downloaded with this license, STK can be used without Internet access. To obtain a Node Locked License you must **send the following information to stellarxplorers@afa.org: Team Number and Host ID from each computer.** The easiest way to find the Host ID is to open STK (once you've downloaded the Basic version) and click on the Help Button at the top of the screen and select License Viewer. The StellarXplorers staff will request the License and then forward to you.





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STK Educational License Types (cont)

B. “Network License”: This is a “floating” license that has access to the assigned network server. Again, STK can be used without Internet access but students must have access to the network. This can be helpful if you have multiple teams and you would like to have access from several computers at your school. You probably need to ask your school IT person about doing this. You need to send the Computer Operating System, Host ID, and IP/MAC Address to stellarxplorers@afa.org.

C. “On Demand License”: This license requires Internet access and is assigned to one specific user, such as a student. It is the recommended method for students working on a personal or home computer. Once the user starts STK, the current set of licenses will be downloaded and can be used for 24 hours. To obtain this license, you must first register at <http://www.agi.com> as a user. You email the request for an On Demand License to stellarxplorers@afa.org. You will be emailed a School Licensing Code and then the individual requests the license themselves at <https://www.agi.com/edu>.

3. Download and Read Rules Book: The Rules Book is on the StellarXplorers Website (<http://stellarxplorers.org/>) under the Competition Tab. I know it is time consuming and tedious but it is important to read it completely. I would suggest you have your students look through it also.





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5. Train and practice on STK 11: If you go to the StellarXplorers Website (<http://stellarxplorers.org/>) under the Competition Tab, you will find a number of resources which will help students train and practice STK skills but here is a Summary.

A. Basic Skills You Tube Video: AGI made two Webinars with a step-by-step procedure for learning basic STK skills related to StellarXplorers orbital scenarios and a more advanced version about Communications Components. You can view them by typing in <https://www.youtube.com/watch?v=uY07sQwgAMo&t=1s> and <https://www.youtube.com/watch?v=tCc64BcgAXk> .

C. AGI Training Materials: Go to <http://www.agi.com/edu>. Under Resources, select Curriculum.

i. Select Orbital Mechanics, Part 1. You can download a PowerPoint which summarizes the orbital elements knowledge needed to effectively use STK to solve the StellarXplorers scenarios. In addition, you can view a video lesson which talks you step-by-step through STK.

ii. STK Tutorial: This is a large (116 page) document but provides all the skills necessary to solve StellarXplorers scenarios, plus other STK capabilities not used during use during StellarXplorers.





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D. STK Certification: During StellarXplorers, students will be learning the same STK skills used by professionals in the aerospace, defense, and intelligence communities. AGI offers two levels of self-paced, free STK certification recognized by professionals in the fields described above. These certifications would boost your resume and could provide opportunities to work in the space field in the future. Since StellarXplorers is part of AGI's Educational Alliance Program, if you become STK certified, you also get a free T-shirt.

i. **View a Flyer about the program at**

<https://downloads.agi.com/u/downloads/products/STK-Certification-Flyer.pdf>.

ii. **To get started, click on Get STK Certified box.**

6. Prepare for Academic Quiz (NEW PROCEDURES): StellarXplorers will be using ClassMarker, a web-based testing service, to administer future StellarXplorers Quizzes. To make sure teams will know how to use it prior to QR2, when it count towards the competition score, we are going to provide a 5-question Practice Quiz. The questions were taken from the PR1 Practice Quiz. The purpose is to make sure teams can access and see what the web-based Quiz looks like. To take the Quiz, we will email each team a unique User Name and Password. Teams go to <https://www.classmarker.com/> and sign in. Teams can access the Quiz any time between November 18 and December 4. You will have 10 minutes to complete the Quiz.

For QR2, 20% of the total score will be based on an online Quiz. Teams will have access to the Quiz through ClassMarker anytime during the Competition Period. Teams will have 30 minutes to complete the Quiz once it is opened.

The QR2 Quiz will be 20 Multiple Choice questions from Chapter 12 and Chapter 13 of the Understanding Space textbook. A QR2 Quiz Study Guide has been placed on the StellarXplorers Website. In order to be successful, we highly recommend teams find the answers to the Study Guide Questions before taking the Quiz.





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A. Understanding Space textbook Access for TDs and Mentors: For StellarXplorers IV, the Colorado Educational Initiative (CEI) had agreed to provide one online version of the *Understanding Space* textbook to each Team Director and Mentor, free of charge. You will then own the textbook and will be able to use it in subsequent years. The procedures for you to “order” the textbook are on the Website under the Competition Tab. If you had access to the *Understanding Space* textbook last year, you still have access (i.e. you already “own” the textbook). To access, you go to Inkling at <https://www.inkling.com/read/>. You must login with your email address. If you have forgotten your password, you can request a password reset.

B. Understanding Space textbook Access for students: StellarXplorers has purchased 100 textbooks for students use during the competition period, but we have 175 teams registered. We are looking for a sponsor which would allow us to provide access to every student but at this time, we can only commit to providing one additional textbook per team. If students had access to *Understanding Space* last year, they also have access this year. We still have the email addresses students used last year, if they forgot it. TDs could also allow students access through their own textbook.

If your team does need access to the *Understanding Space* textbook, email Bill Yucuis at stellarxplorers@afa.org.

7. PR2 and QR2 Competition Period: You will receive an email about 10 days prior to PR2 and QR2, respectively, giving details on how the Competition Period will run. **Once the Competition Period begins, teams will not be able to obtain Educational Licenses nor textbooks.**

