

OCTOBER 2025
Vienna, AUSTRIA

The Schools' Observatory (TSO) – Go Observing Handbook

Document Title	Go Observing HANDBOOK
Version/Date	V1.01/27Oct2026
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How to Use 'Go Observing' — User Manual for Teachers & Students

1. Introduction

This manual provides a step-by-step guide on how to use the 'Go Observing' tool of The Schools' Observatory to plan, submit, and analyze astronomical observations. It is intended for both teachers and students who want to engage in real astronomical data collection using professional robotic telescopes such as the Liverpool Telescope and Faulkes Telescope Network.

2. Accessing The Schools' Observatory

Go to <https://www.schoolsobservatory.org/> to access the Go Observing platform. You will find general information, login options, and links to registration.

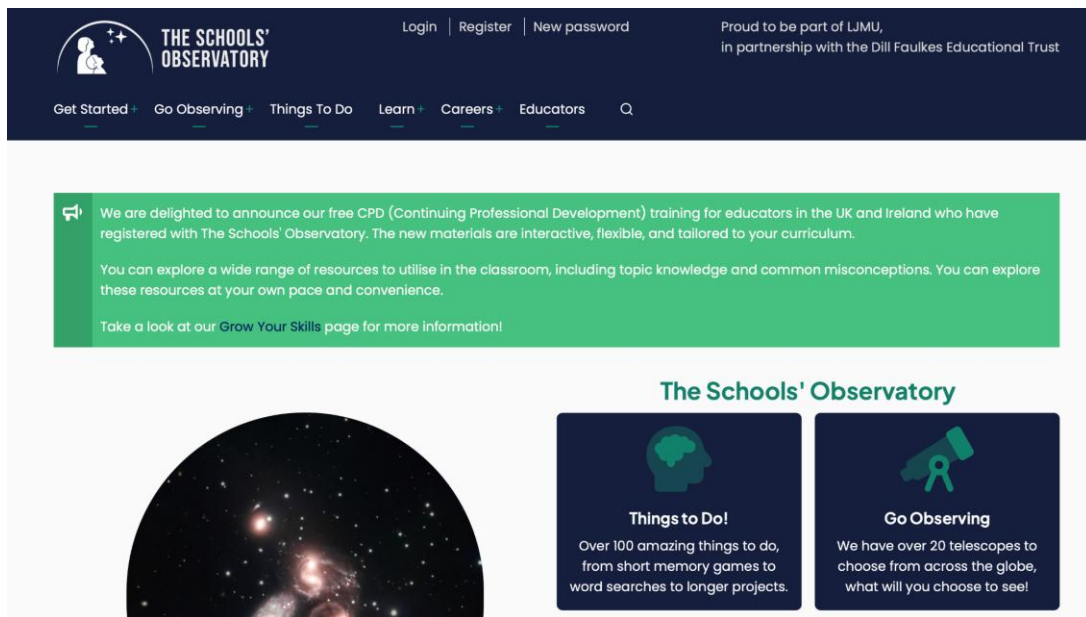
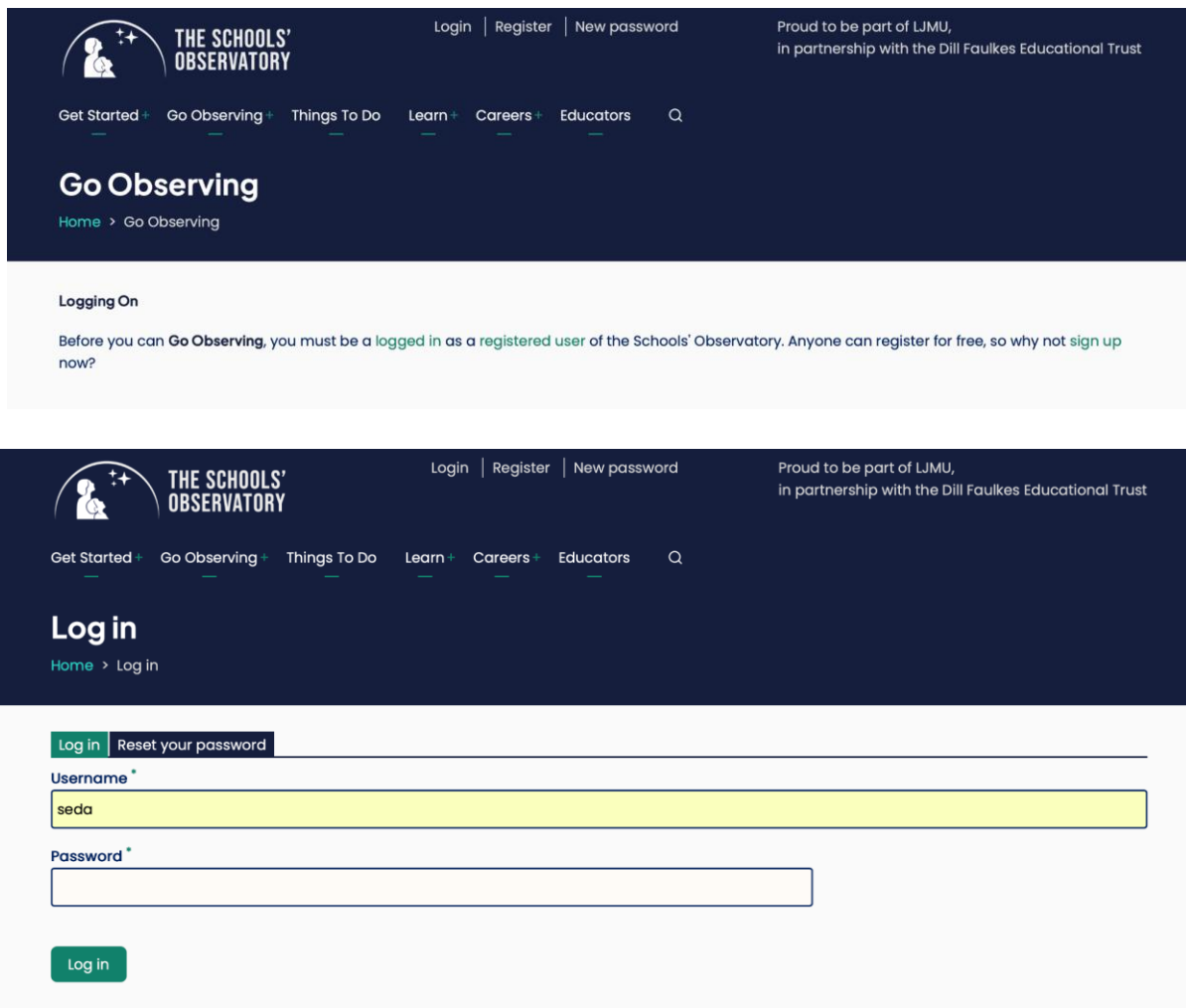


Figure 1. Homepage of The Schools' Observatory showing access to Go Observing.

3. Logging In or Registering

Before you can start observing, you must be logged in as a registered user. Registration is free. Click 'Register' to create an account or 'Login' if you already have one. Teachers should register as “Educator”, Students as “Student”.



The top screenshot shows the 'THE SCHOOLS' OBSERVATORY' website header with navigation links: Login, Register, New password. The main content area is titled 'Go Observing' and includes a message: 'Logging On. Before you can Go Observing, you must be a logged in as a registered user of the Schools' Observatory. Anyone can register for free, so why not sign up now?'

The bottom screenshot shows the 'Log in' page. It features a login form with the following fields and buttons:

- Buttons: Log in, Reset your password
- Username field: Contains the text 'seda'
- Password field: Empty
- Log in button: Green button with white text

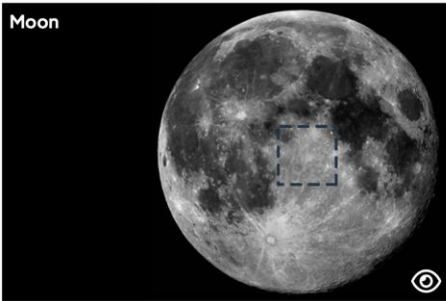
Figure 2. Login and registration pages.

4. Choosing What to Observe

Once logged in, navigate to 'Go Observing' → 'Decide What to Observe'. Here you can select from categories like the Moon, Planets, Deep Sky Objects, and special programs.

Request your own observations from a professional telescope.

Whether you're collecting data for a school project or here to process your own spectacular image of the cosmos, this is a great opportunity to use the use some of the largest autonomous telescopes in the world.








Which Planet: Objects

Different objects in the night sky can be observed at different times or year – this is because not every part of the sky is visible to a telescope at any one moment, or sometimes the Moon might make the sky too bright for fainter objects. The coloured bars are there so you can see when some objects are observable.

Select an object from the list below.
Use the  buttons to get more information about each object.

Objects		Classification	2023 Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct
Jupiter		A Planet	
Uranus		A Planet	
Saturn		A Planet	
Mars		A Planet	
Neptune		A Planet	
Venus		A Planet	
Mercury		A Planet	Not Observable

Key: Chances of Observing
 Poor  Reasonable  Good  Excellent

Figure 3. Object selection interface and planetary visibility chart.

5. Submitting Your Observation

After selecting your target (e.g., Saturn), review the observation details such as instrument, filter, and exposure time. When ready, click 'Submit Observations' to send your request to the telescope network.

Submit your Observations

You have chosen the Observing Programme "Observe a Planet" and you will be using The **Liverpool Telescope**.

Your observations will take place as soon as possible. If the observations cannot be done immediately, we will keep trying for **a year**.. If this is not what you want then you can [change the timing](#) 🕒.

Sometimes some objects are very difficult to observe, particularly if your observations need very dark skies or unusually good conditions. This may mean that your observations cannot be done for a while. You can use the special Colour Bars to check.

Saturn	Observation details
 Image: NASA	The observation. - Instrument: IO:O - Filter: V + ND 1/32 - Exposure time: 1.00 seconds

Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct 2026

Key: Chances of Observing
 Poor Reasonable Good Excellent

Do you want to submit this Observing Programme?

If you are sure that you want to submit this program, click on the button below. You may be asked for your username again and your password. Please be careful to enter them correctly!

Please make sure that you read the [Instructions for Submitting Observations](#) carefully first.

Submit Observations ↑

Figure 4. Observation submission form.

6. Observation Confirmation

Once submitted, you will receive a unique observation code. The system will schedule your observation and capture it automatically when conditions are suitable.

Submit an Observation

[Home](#) > [Submit an Observation](#)

Observe a Planet has been submitted

It has been given the unique code **34766A**.

What happens next?

Your request will be sent to The [Liverpool Telescope](#). We will take your observations as soon as possible. However, there are lots of things that the telescope has to deal with – the phase of the Moon, the weather conditions, other observations and so on. So, if the observations cannot be done immediately, we will keep trying for **a year**.

You can see how your observations are doing at any time by checking the [My Observations](#) page.

After your observation is taken, the real fun begins. Astronomy isn't just about choosing an object, pointing the telescope and getting a pretty image. It gives you the opportunity to investigate your observations and study the objects within them. The telescope sends your observation back in a special file called a **FITS file**. You can open and explore FITS files using our [software](#). If you're new to The Schools' Observatory, learn how to [view your images](#)

What can I do while I am waiting?

- If you have already requested some observations, you could see [how they are getting on](#).
- You could also [request another observation](#).
- The Schools' Observatory is much more than a place to observe astronomical objects. Why not learn about the objects you are observing in the [Space and Astronomy](#) section, or try one of our [Activities](#)?

Figure 5. Confirmation screen showing observation code and next steps.

7. Checking Observation Status

You can check the progress of your observations anytime under 'My Observations'. This page lists all programs you have created, their current status, and observation times.

My Observations

[Home](#) > [My Observations](#)

Current Observing Programmes created by seda

ID	Object(s)	Programme	Status	Submitted	Observed	Actions
34766A	Saturn	Planet	Submitted	20 Oct 2025 at 13:42:05 GMT		
34230G	Mars	Mars in Colour	Sent to the telescope	8 Jul 2025 at 06:53:55 GMT		
34230F	NGC6907	3-colour observation	View Images	8 Jul 2025 at 06:52:59 GMT	18 Jul 2025 at 17:33:36 GMT	
34230E	NGC7793	Deep Sky	View Image	8 Jul 2025 at 06:51:07 GMT	22 Jul 2025 at 04:36:07 GMT	

To get more information about a Programme, click on the "ID" number

Figure 6. My Observations dashboard.

8. Viewing and Downloading Images

Once your observations are complete, view or download them through the same dashboard. You can access FITS image data files for scientific analysis or use AstroLab to visualize results.

You have selected 4 observations

Search						
Code	Object	Date of Observation	Telescope and Instrument	Exposure Time	Filter	When Available
34230F000	NGC6907 	18 Jul 2025 at 17:33:36 GMT	Siding Spring Observatory 2 metre Faulkes Telescope using MuSCAT Fast	90 secs	i'	Now
34230F001	NGC6907 	18 Jul 2025 at 17:33:36 GMT	Siding Spring Observatory 2 metre Faulkes Telescope using MuSCAT Fast	90 secs	r'	Now
34230F002	NGC6907 	18 Jul 2025 at 17:33:36 GMT	Siding Spring Observatory 2 metre Faulkes Telescope using MuSCAT Fast	90 secs	g'	Now
34230F003	NGC6907 	18 Jul 2025 at 17:33:36 GMT	Siding Spring Observatory 2 metre Faulkes Telescope using MuSCAT Fast	90 secs	zs'	Now

[View all these images in AstroLab](#)

To download these observations, for example to make a 3-colour image, click on the 'Code' for each observation and on that page there is a button to 'Download the FITS Image Data File'

Archive of Observations

[Home](#) > [Archive of Observations](#)

Observation 34230E000 from Observing Programme 34230E

Observation of [NGC7793](#), taken for [seda](#), on 22 Jul 2025 at 04:36:07 GMT by the [Cerro Tololo Interamerican Observatory 1 metre Telescope](#) using [Sinistro](#). The exposure was 90.00 seconds using filter g'.

View Image



This will open the image in AstroLab

Help on Displaying

How to explore your data

Observing Conditions

During your observation

[Download the FITS Image Data File](#)
[Get pictures made from the image data](#)

Figure 7. Observation archive and image download options.

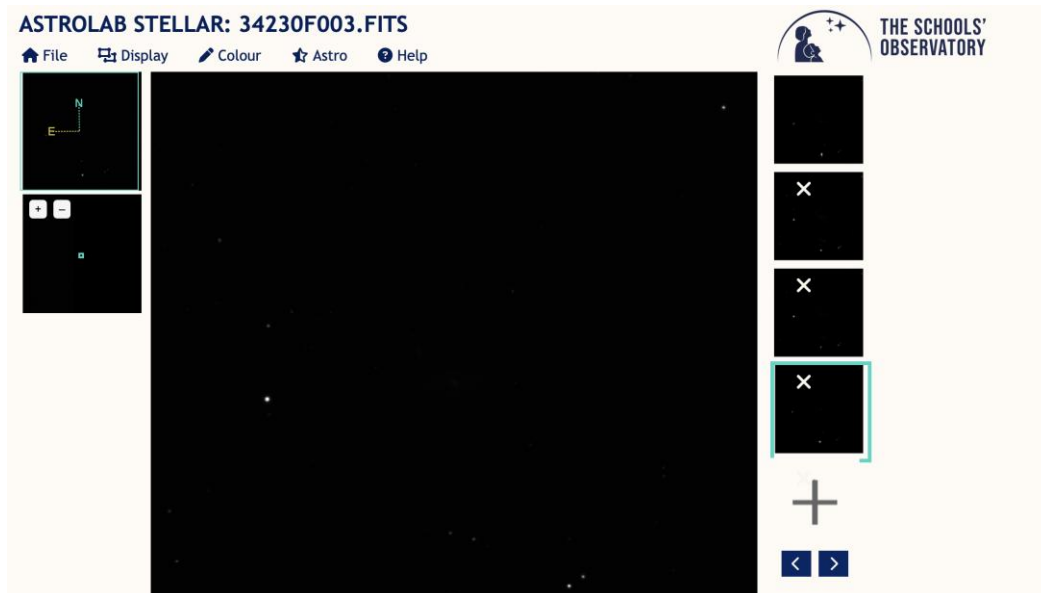


Figure 8. Astrolab app

Note that in Astrolab, the image may look just black. This does not mean that there is nothing on the image. You may have to select “Display” on top and then “Scaling”. A new window will open where you can make the necessary adjustments. Usually you can simply select “Most detail” as starting point. See Figure 9.

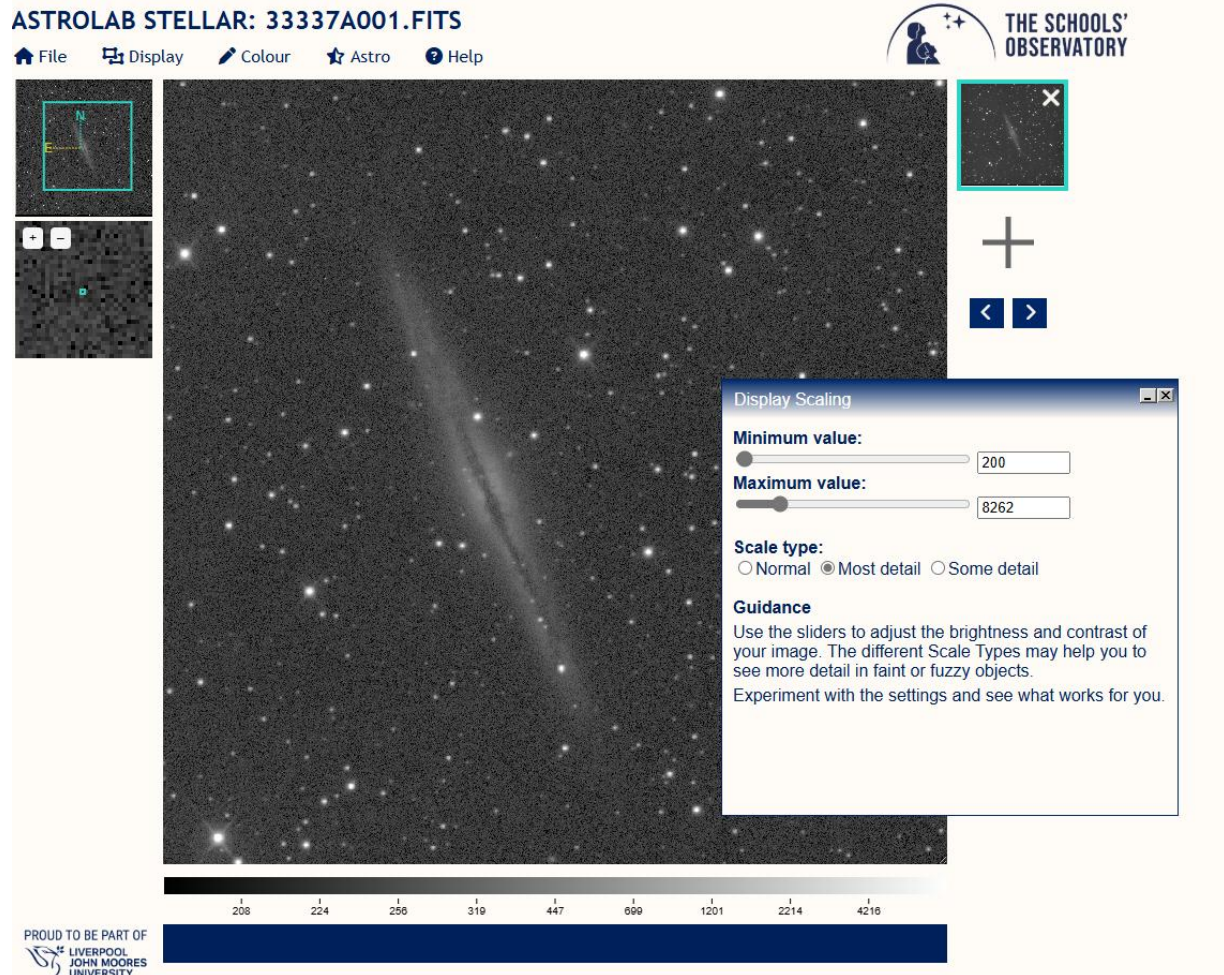


Figure 9. Astrolab – Display Scaling

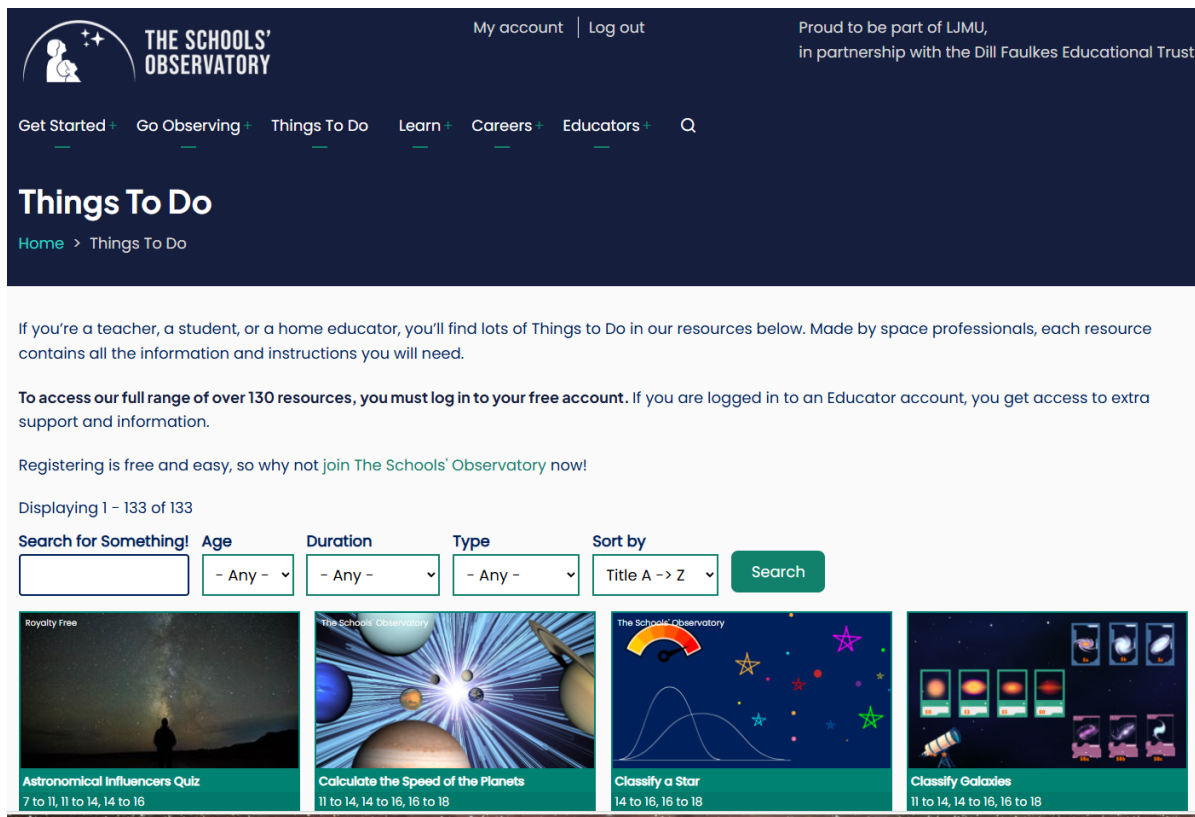
9. Teacher & Student Guidance

Teachers can integrate Go Observing into lessons about astronomy, data collection, and scientific inquiry. Suggested activities:

- Compare student observations of planets or galaxies.
- Analyze brightness and colors using image filters.
- Discuss how weather or moonlight affects observations.

Students can keep a logbook to record each observation, including target name, observation date, telescope used, and findings.

Also have a look at “Things to do” which you can select on the top of the page, with a large selection of over 130 educational resources. See Figure 10.



The screenshot shows the 'Things To Do' section of The Schools' Observatory website. The header includes the logo, navigation links (Get Started, Go Observing, Things To Do, Learn, Careers, Educators), and user options (My account, Log out). A banner below the header reads 'Proud to be part of LJMU, in partnership with the Dill Faulkes Educational Trust'. The main heading is 'Things To Do' with a breadcrumb 'Home > Things To Do'. A paragraph explains that resources are available for teachers, students, and home educators, and that a free account is required to access all 130 resources. A search bar with filters for Age, Duration, Type, and Sort by is present. Below the search bar, four resource cards are displayed: 'Astronomical Influencers Quiz' (7 to 11, 11 to 14, 14 to 16), 'Calculate the Speed of the Planets' (11 to 14, 14 to 16, 16 to 18), 'Classify a Star' (14 to 16, 16 to 18), and 'Classify Galaxies' (11 to 14, 14 to 16, 16 to 18).

Figure 10. Things to Do

10. Troubleshooting & Glossary

If your observation does not appear or fails to complete, check weather conditions or telescope availability. For technical issues, contact The Schools' Observatory support.

Glossary:

- FITS File – A standard astronomical data format.
- Filter – Optical element isolating light of specific wavelengths.
- Exposure Time – Duration of light capture during observation.
- Observatory – Automated facility that captures your image remotely.