SESSION 4: PLANNING OBSERVATIONS

The night sky is full of fascinating objects from stars and planets, to galaxies and comets, but finding your way around can be tricky. The key to a successful observing session is planning. In this activity you will learn how to use software to plan an evening of planet hunting.

You will need a computer with the Stellarium software installed. Stellarium is special software that lets you see what the cloud-free sky above you should look like from anywhere on Earth at any time.

SETTING UP STELLARIUM

1. Your STEM Club Leader has installed Stellarium. Follow their instructions when they tell you to start the software. You should see something like the screenshot below, exactly what it looks like will depend on the time of day:

Stellarium opens full screen. There is an icon in the bottom menu that looks like a box with arrows on the 4 corners, click it or press 'F11' on your keyboard to take you out of full screen mode.

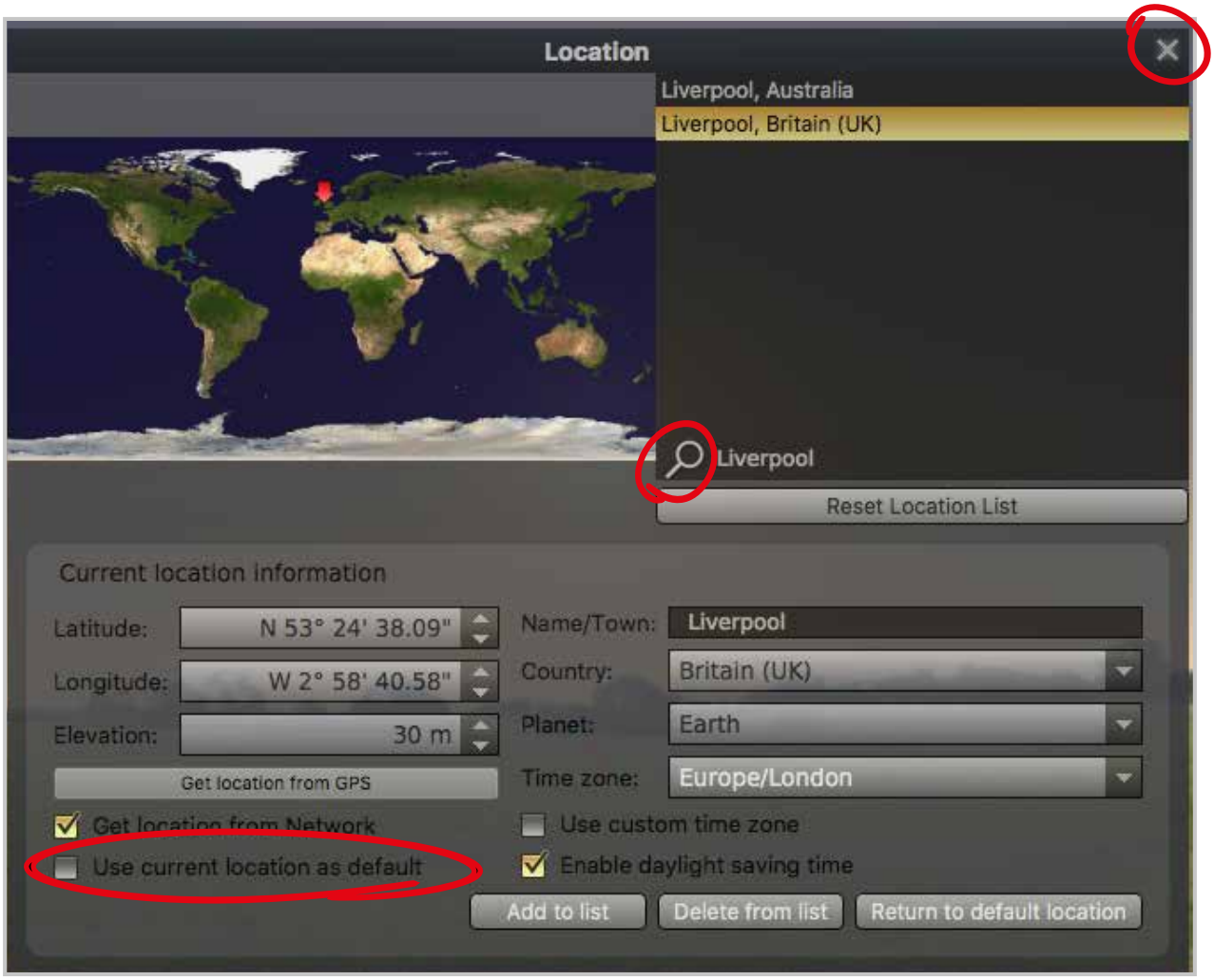
2. The first thing you need to do is tell Stellarium where you are. To do this, move your mouse pointer over to the left until this menu appears:

3. Click on the ‘Location Window’ icon and the popup below will appear.

   In the box next to the magnifying glass symbol (circled in red) type the name of the city nearest to you. It should appear in the list above where you are typing. If so, click on the name in the list. Otherwise try the name of another nearby town or city (it doesn’t matter if it isn’t that close – the sky will look very similar).

   You may want to select the box ‘Use current location as default’ (also circled in red) – that way it should remember where you are next time you use the software.

   Close the pop-up by clicking on the cross in the top-right corner.



4. The window will now show what the sky should look like where you are right now. However, you want to know what it is going to look like for the evening you are planning, so you need to set the time.

   First you need to pause the software. Move the mouse pointer to the bottom of the window until this menu appears:

   Click on the “rewind” symbol next the to “play” button. The clock should stop and the play button will now show as ‘paused’.

5. Move your mouse pointer over to the left of the screen again, until the menu appears and select the Date/Time icon. A new popup window will appear.

Use the arrows to set the date and time you are interested in – you will see the sky in the window change as you adjust things. Once you have set the time, close the pop-up by clicking on the cross in the top-right corner.

EXPLORING STELLARIUM

Now that you are in the right place and at the right time, you can start to explore the sky.

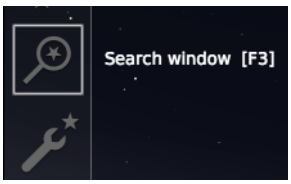
1. First try "zooming in and out", you can either: pinch the touchpad, use the scroll-wheel on your mouse (slowly) or use the 'Page Up' and 'Page Down' keys. To return to the original zoom level press the backslash key.

   To move about the sky you can either click and drag or use the cursor keys: left, right, up and down.

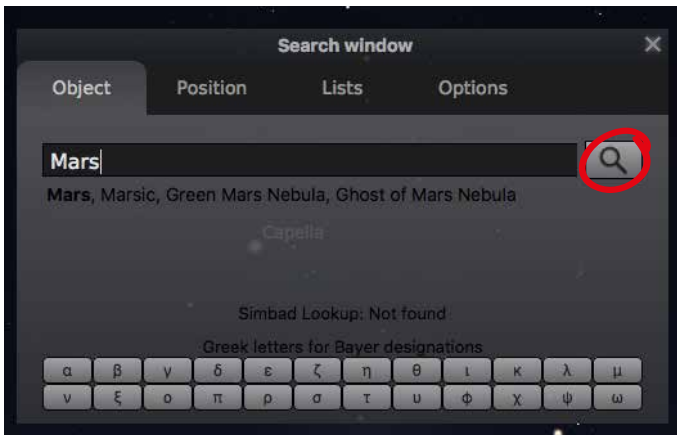
   This can take a bit time to get used to, especially when zoomed out, so take some time to practice a bit.

2. The easiest way to find an object in the sky use the Search tool that you can find in the left-hand menu.

   You can just move around the sky looking for objects, but that can be hard, take a long time and the object may not even be above the horizon at the time and place you are looking.



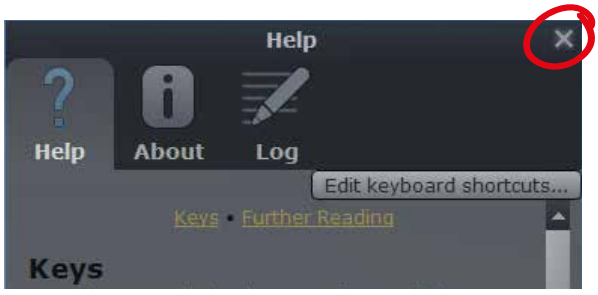
3. In the text box in the pop-up menu, type "Mars" and then click on the magnifying-glass symbol. The view will scroll around to point to Mars. This may be below the horizon.



4. Without clicking anywhere else, bring up the bottom menu (move the mouse pointer to the bottom of the window until this menu appears) and use the “fast forward” and “rewind” arrows to speed up and slow down time. Each time you click on the “fast forward” button, it will get faster, and the opposite for the “rewind” button. If you rewind enough you will go back in time. To go back to normal speed at any point, just click on the “play” button.

5. So far you have learnt to:

   - ☆ Set your location
   - ☆ Change the date and time
   - ☆ Move around the sky and zoom in and out
   - ☆ Find particular objects

This is enough to plan your observing session, but Stellarium can do a lot more. To get help on some of the many other options, select the Help option from the left-hand menu:

To close the help box just click on the cross in the top-right corner.