Exercise 09: Solar System Orrery View

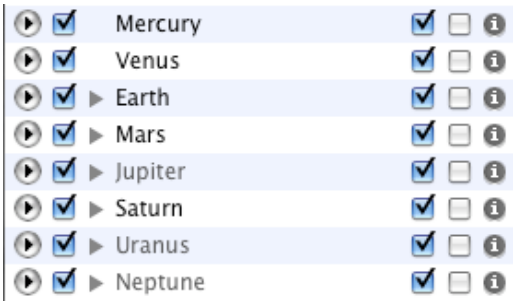
In this exercise you will create a bird's eye view of the solar system and animate the motion of the planets around the Sun. This exercise reinforces the relationship between time flow and movement in space.

Instructions:

Inner Solar System

1. Press the **Home** button.
2. Click on the Sun's context pop up menu button in the **Find** pane.

3. Select **Go There** from the menu.
4. In the Find Pane, check the label and orbit boxes for each of the eight planets in the solar system.



5. Press the **Increase Elevation** button until you are 2.5 au from Earth. At this distance you are viewing the inner planets of the solar system.
6. Set the Time Flow Rate to 1 **day**. Press the **Run Time Forward** button.
7. At this point I'm sure you want to press the **Stop Time** button!

The resulting motion when you pressed the Run Time Forward button is due to the fact that you are "rotating with the Sun". As with the Earth example in a previous exercise, we need to change to **Hover as Sun Rotates**. Let's try again.

8. Click on the drop arrow menu in the Viewing Location control of the Toolbar.

9. From the list, select **Hover as Sun Rotates**.
10. Press the **Run Time Forward** button.

Outer Solar System

11. Press the **Increase Elevation** button until you are about 55 au from Earth. At this distance the outer planets of the solar system become visible.
12. Press the **Run Time Forward** button.

Question: The motion of the outer planets appears slow compared to how fast the inner planets were moving. What can you do to speed up the motion of the outer planets?

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