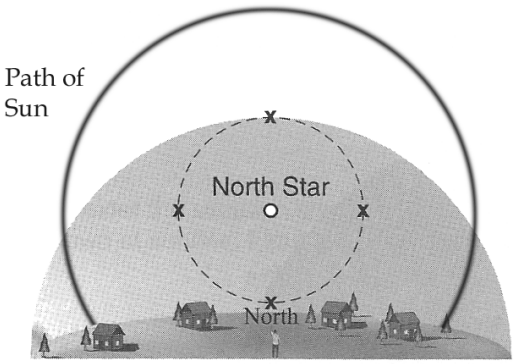

Figure 1

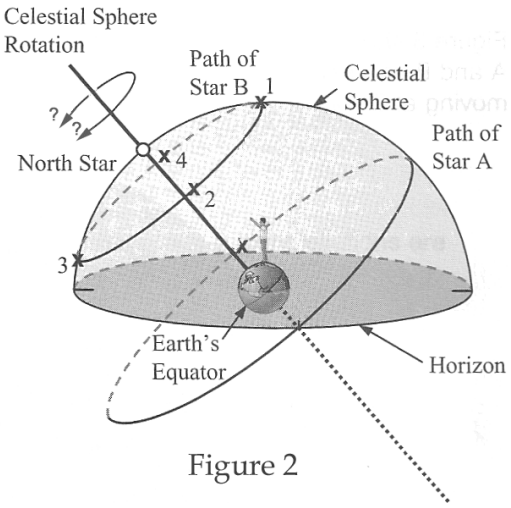

Figure 2

Unlike the Greeks, we currently believe that the motion of the stars is due to the rotation of the earth, rather than a celestial sphere that rotates around us. But which way is the earth rotating? And how is that related to the apparent motion of stars?

1) We also think that the Sun's motion "across the sky" is due to the rotation of the earth. Figure 1 shows the view of the sky of someone looking Northwards. Write in East and West on the appropriate sides of Figure 1. And based on your knowledge of where the sun rises and sets, put an arrow on the "Path of Sun" indicating which direction the Sun appears to be moving during the course of the day.

2) In Figure 2, if the sun was following the same path as "Star A", Think about which is East and West for the little human facing North. Would East be on their right or left? Mark an arrow on the Path of Star A indicating which direction the sun would appear to be moving.

3) But we think the sun *appears* to move because the Earth rotates, while the sun is still. Which way should the Earth rotate for things to appear like that?

4) Figure 3 shows a view looking down from above the North Pole. So, which way is **earth** rotating as seen this way? Talk this through and circle a or b.

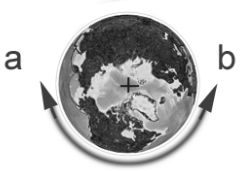

Figure 3

5) Do you think the stars appear to move across the night sky in the *same* direction, or in the *opposite* direction as the Sun. (Mark in Figure 1 the direction of apparent motion of the star "X".) Why, (in a sentence or three)?

6) For an observer in the southern hemisphere, looking south, what direction would the circles of stars appear to move – clockwise or counterclockwise?

Here's a simplified picture of the sun-centered solar system seen from the North Star. (Everything in this picture is rotating in the same direction as the earth rotates).

If we're looking down at the North Pole, then the equator is at the outer edge of the blue Earth circle.

1) On the earth, mark the position of somebody on the equator at 6 am, 6 pm, and midnight.

2) Which of the planets and/or moon are easiest to see at 6 am?

3) At midnight?

4) Would it **ever** be possible to see Jupiter at midnight?

5) Would it **ever** be possible to see Venus at midnight?