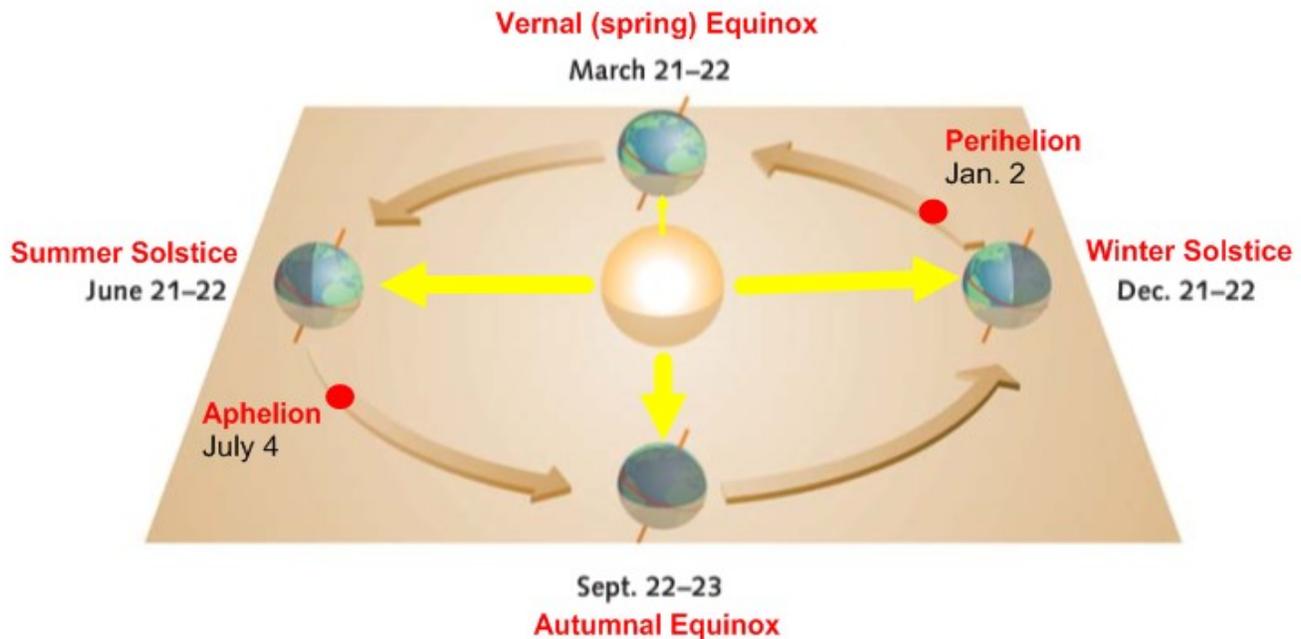


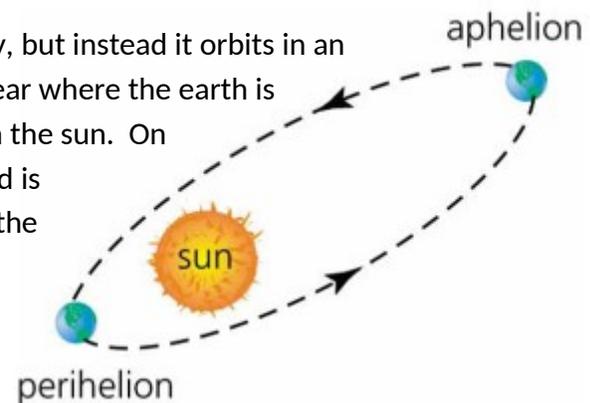
Station # 2: Earth's Revolution

Introduction:

The diagram below shows the seasons of earth. These seasons are due to the fact that Earth revolves around the sun in an elliptical orbit once every 365.24 days and also because the earth's axis is at a 23.5° tilt.



The earth does not orbit around the sun in a perfectly circular pathway, but instead it orbits in an elliptical pathway around the sun. Due to this there is a point in the year where the earth is closest to the sun and a point in the year when it is furthest away from the sun. On January 2nd earth is the closest to the sun at 147, 300, 000 km away and is referred to as **Perihelion** (per - l - he - li - al). On July 4th the earth is the furthest from the sun at 152, 100, 000 km away and is referred to as **Aphelion** (a - phe - le - on).



Investigation Question: How does Earth's revolution affect the seasons occurring on Earth?

1. How does the tilt of the earth affect the seasons found on earth? What would happen to the seasons if there was no tilt?
2. On January 2nd when the earth is the closest to the sun we are in the dead of winter with temperatures as cold as -40°C. How is this possible? Where are people enjoying the summer during January 2nd?
3. What would happen if the earth orbited the sun in a perfectly circular path instead of an elliptical orbit making it so that earth was at the same distance from the sun the entire year? Now imagine there was no tilt, how would this change?
4. Explain why the Moon orbits around the sun, but not in a direct path around it.