Astronomy Space Unit Study Guide

6. List the astronomical phenomena we learned about that occur cyclically.
Seasons, changes in daylight, solstices and equinoxes, phases of the Moon.

7. List the astronomical phenomena we learned about that DO NOT occur cyclically.
Eclipses and auroras.

8. Draw a diagram showing the position of the Earth around the Sun, and its tilt, through the different seasons. Attach an extra sheet of paper if you need more space.
See 'Solstices' page for an example.

9. Explain why longer and shorter days are experienced at different times of the year in the northern and southern hemispheres. Include diagrams if needed. Attach an extra sheet of paper if you need more space.
Due to the Earth's tilt, the angle of the Sun above the horizon changes with the seasons. In winter, the Sun is at a lower angle, meaning we get less direct sunlight, and the Sun takes a shorter path across the sky, which results in less hours of daylight. When the northern hemisphere is tilted AWAY from the Sun, the southern hemisphere is tilted TOWARDS the Sun. So the hemispheres experience opposite seasons. When the northern hemisphere is experiencing winter with cooler temperatures and shorter days, the southern hemisphere is experiencing summer with warmer temperatures and longer days. As Earth moves around the Sun throughout the year, the hemispheres experience opposite seasons.

10. Explain, with detail, one way in which astronomical phenomena are connected to ways of living and/or daily life.
Answers will vary. One example would be the calendar. The international standard calendar that is followed by many around the world is based on the amount of time it takes Earth to travel around the Sun (~365.25 days). The international standard calendar affects our lives in many ways – it tells us what time of the year it is, many of us go to school from Monday to Friday, and take holidays at certain times of the year – such as December 25th, for Christmas, or July 1, for Canada Day.

11. Explain, with detail, one way in which observation of astronomical phenomena can determine agricultural and hunting practices.
Answers will vary. One example would be the planting of crops in spring, when the snow has melted and the morning frost has gone, and the harvesting of crops in fall, when the frost returns and the leaves fall from the trees.