Chapter 7 Summary

7.1 Ancient Astronomy

Key Concepts

- Early sky watchers paid a lot of attention to the sky. This enabled them to develop accurate calendars, which they used to predict the seasons and other events that were important to them in their daily lives.
- Earth's revolution around the Sun takes 365.24 days. Earth's rotation on its axis takes 24 hours.

- Different cultures have different reasons for watching the sky. For example, the ancient Egyptians watched for a star called Sirius to rise every year because they knew that the Nile River would flood soon after.
- Careful observations of ships "disappearing" below the horizon, the changing appearance of the sky when travelling, and Earth's shadow viewed during eclipses led the early Greeks to infer that Earth is a sphere.

7.2 The Constellations

Key Concepts

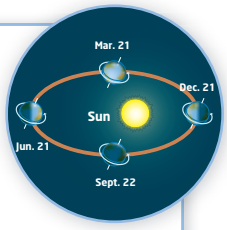
- Constellations are groupings of stars that form distinctive patterns. The stars in these groupings appear to be close to each other, but they are not.
- A star's apparent magnitude is its brightness as seen from Earth.
- The Big Dipper is an asterism, which is a smaller grouping of stars within a constellation.

- Earth's rotational axis points to Polaris, the North Star. For thousands of years, travellers have used Polaris and the constellations to navigate.
- Different cultures have different interpretations of the night sky.
- A light-year is the distance that light travels in one year.

7.3 Movements of Earth and the Moon

Key Concepts

- The tilt of Earth's axis, combined with Earth's motion around the Sun, gives rise to the seasons.
- We see different phases of the Moon, depending on where the Moon is in relation to Earth.
- During a lunar eclipse, the Moon passes through Earth's shadow.

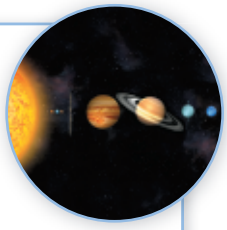


- During a solar eclipse, the Moon passes in front of the Sun.
- The tides are a result of the difference between the force of gravity on the side of Earth nearest the Moon and the force of gravity on the side of Earth farthest from the Moon.

7.4 Meet Your Solar System

Key Concepts

- Two models of the solar system are the geocentric model and the heliocentric model.
- The planets share many similar characteristics, but they also have many differences.



- The inner, or terrestrial, planets are rocky and small. The outer planets, or gas giants, are made of gases and are huge.
- The astronomical unit is defined as the average distance between Earth and the Sun.

7.5 Other Objects in the Solar System

Key Concepts

- In addition to planets, the solar system contains many different objects, such as dwarf planets, asteroids, comets, and meteors.

- There is a very real danger that an asteroid or a large meteor will hit Earth again.
- The Canadian Space Agency and Canadian businesses are building a satellite that will help to detect near-Earth objects that could be harmful if they hit Earth.