

CHAPTER TWO SECTION ONE

The universe is made up of all existing things including space and the Earth.

Space is filled with large objects called stars. Most stars are grouped together in Huge clusters called galaxies The Milky Way is our galaxy.

The sun and the group of bodies that revolve around it are called the Solar System. The planets in the solar system are held in place by the gravity of the sun.

What are the names of our nine planets?

Moons are smaller objects that orbit a planet. These can also be referred to as *satellites*.

The diameter of the Sun is about 865,000 miles, the Earth's diameter is about 8,000. The Earth is about 93 million miles from the Sun and is the third planet in the solar system.

Most of the Earth's energy comes from the Sun--**Solar Energy**. This energy affects the weather, plants, animals and human activity. The amount of energy a location receives is determined by three factors of the Earth: Rotation, Revolution, Tilt.

Rotation-one complete spin of the Earth on its Axis (imaginary rod). It takes about 24 hours.

Revolution-one complete elliptical orbit around the Sun. It takes about 365-1/4 days.

Tilt-the back and forth movement of the Earth toward the Sun. Causing different locations to receive more direct rays of sunlight.

CHAPTER TWO SECTION TWO

Different locations receive different amounts of solar energy during the year.

Tropics-receive the most direct rays year round causing warm to hot temps throughout the year.

Polar-receive little or no direct rays causing cold temps year round.

Middle Latitude-have varied amounts of direct rays throughout the year causing a wide range of temps. Other factors will also affect temps in these areas.

The tilt of the Earth helps to determine how much sunlight an area will receive.

The four seasons are determined by each of these three factors.

Winter Solstice(Dec. 21st) the Sun's most direct rays strike the Earth along the Tropic of Capricorn 23-1/2 degree south of the equator. The Arctic Circle receives no sunlight.

Summer Solstice(June 21st) the Sun's most direct rays strike the Earth along the Tropic of Cancer 23-1/2 degree north of the equator. The Antarctic Circle receives no sunlight.

Spring(March 21) and *Fall*(Sept 22) *equinox* the Sun's most direct rays follow along the equator.

Equinox-means equal nights. Both hemisphere receive equal amounts of sunlight.

CHAPTER TWO SECTION THREE

The Earth is a complex planet. The interactions of the Earth are contained in Four Major Parts.

Atmosphere-the envelope of gases that surround the Earth.

78% nitrogen, 21% oxygen, 1% other gases(carbon dioxide)

Lithosphere-is the solid crust of the planet.

Hydrosphere-is all of the Earth's water.

70% covered in water and glacial oceans

Biosphere-is the part of the Earth that includes all life forms. The biosphere interacts with the other three spheres to survive.

These four spheres make up the environment, or surroundings. The environment includes all the biological, chemical, and physical conditions that interact and affect life.