**Name: Date:**

**Earth Science**

**Introduction to Meteorology Notes Outline**

**Student Learning Objectives:**

**1). Students will be able to describe what happens during a solstice and equinox.**

**2). Students will know how the Earth’s tilt causes during solstices and equinoxes causes changes in seasons.**

**3). Students will understand the difference between direct and indirect sunlight.**

**What does the Earth’s orbit around the Sun really look like?**

* Actual Orbit is Almost Perfectly

**If the Earth’s orbit around the Sun is the same, then how do we get seasons?**

* **Earth’s Tilt On Its Axis** 
  + Degree

**Solstice: “Sun Stands Still”**

1. **Summer Solstice**

* June 21st
* When the Northern hemisphere of Earth is tilted 23.5 degrees the Sun
  + longest day and shortest night of the year

1. **Winter Solstice**
   * December
   * When the Northern hemisphere of Earth is tilted 23.5 degrees away from the Sun
   * shortest day and night of the year

**Equinox: “ ”**

1. **Autumnal/Fall Equinox**

* When Earth is not tilted away from or toward the Sun.
* September 22nd
  + Day and Night

1. **Vernal/Spring Equinox**

* When Earth is not tilted away from or toward the Sun.
* March
  + Equal Day and Night

**How Does The Earth Having A Tilt Effect Seasons?**

* **Generates 2 Forms of Sun-Light that Reach Earth**
  1. **Direct Light**
* Degree Angle
* Concentrated
* Passes Through Less Atmosphere
  1. **Indirect Light**
     + Over 90 Degree Angle
     + Less Concentrated
     + Spread over
     + Passes Through Much more