**THE SUN AND THE MOON**

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The Sun is the star at the centre of the Solar System. It is a nearly perfect sphere of hot plasma, heated to incandescence by nuclear fusion reactions in its core, radiating the energy mainly as visible light and infrared radiation. It is by far the most important source of energy for life on the earth. Its diameter is about 1.39 million kilometres (864000 miles) or 109 times of that of the earth. Its mass is about 330000 times that of the earth and accounts for about 99.86 percent of the total mass of the Solar System. Roughly three quarters of the Sun’s mass consists of Hydrogen (approximately 73 percent), the rest is mostly Helium (25 percent), with much smaller quantities of heavier elements, including Oxygen, Carbon, Neon and Iron.

The Moon is the proper natural satellite of the earth. At one quarter of the diameter of the earth (comparable to the width of Australia), it is the largest natural satellite in the Solar System, relative to the size of its planet and the fifth largest satellite in the Solar System overall (larger than any dwarf planet). Orbiting earth at an average lunar distance of 384400 km (238900 mile) or about 30 times to the diameter of the earth – its gravitational influence is the main driver of earth’s tides and slightly lengthens earth’s day. The Moon is classified as a planetary-mass object and a differentiated rocky body and lacks any significant atmosphere, hydrosphere or magnetic field. Its surface gravity is about 1/6th of that of the earth.

The sun and moon represent different things in different cultures but the one thing that is common in all of them is their polarity. The sun symbolizes firmness, strength and power while the moon represents calmness, beauty and nurturing. The motions of bodies in the Solar System are for the most part regular and understandable. From earth, the sun rises in the eastern sky in the morning and sets in the western sky in the evening. If the moon is full on day 1, it will be full again on day 28 and new on day 14. The motions of Earth, relative to the sun and the motions of the moon and sun relative to earth affect different phenomena on earth, including day and night, the seasons, the tides and the phases of the moon. Earth rotates once on its axis about every 24 hours. To an observer, cooling down on the North Pole, the rotation appears counter-clockwise. From early all points on earth, the sun appears to move across the sky from east to west each day. Of course, the sun is not moving from east to west at all; the earth is rotating. The moon and stars also seem to rise in the east and set in the west. Earth’s rotation means that there is a cycle of daylight and darkness approximately every 24 hours, the length of the day. Different places experience sunset and sunrise at different times and the amount of time a location is in daylight and darkness also differs by location. Shadows are the areas where an object obstructs a light source so that darkness takes on the form of the object. On earth, a shadow can be cast by the sun, moon or rarely some other planets.

A common misconception is that the Sun is closer to the earth in the summer and farther away from it during the winter. Instead the seasons are caused by 23.5 deegre tilt of the earth’s axis of rotation, relative to its plane of orbit around the Sun. The Sun warms our planet and with the Moon, creates the tides. The Moon orbits the earth and in turn the earth orbits the Sun because they appear to be the same size in the sky – the Sun, the Earth and the Moon work together to create eclipses. When the moon is directly in between the Earth and the Sun, we see solar eclipse. On the other hand, lunar eclipse occurs when the Moon moves into the earth’s shadow-this can occur only when the Sun, the Earth and the Moon are exactly or very closely aligned with earth between the other two and only on the night of a full-moon. Selenelion occurs when when the Sun and the Moon are 180 deegre apart in the sky at the same time. A glimpse of celestial occurrence occurs very rarely at very early in the morning. Everyone on earth sees the same moon phase on the same day; it is a misconception that people in different parts of the world see different moon-phases. There is one difference : people to south of the equator will see a moon that appears upside down from people to north of the equator. When the moon is farther from the sun and visible above the horizon, it is easier to spot during the day. Then, halfway through its orbit, the moon is behind the earth with respect to the Sun and we can see the entire surface lit by the Sun. This is the full-moon, but it is visible only at night.

The Sun symbolizes the supreme cosmic power – the life-force that enables all things to thrive and grow. In some cultures, the Sun is the universal father. Thus the Sun has been the symbol of power, growth, health, passion and the cycle of life in many cultures and religions throughout time. Some believe it is the representation of the higher self, while others see the Sun as a god to be worshipped. Correspondingly, the Moon symbolizes death, birth and resurrection. Its feminine qualities bind it to mother goddess. According to a mythological story, the Sun disobeyed her wife Moon. His wife told him not to touch any of their children – the stars, while she was away washing clothes during spring. Apart from the loss of some of their children, the Sun’s disobedience made Moon feel angry which caused quarrel between the couple. The Sun constantly chases the Moon, trying to win back her affections. The Filipino folktale ‘Food for Thought’ not only gives an original story to the stars but also circles the themes of family and responsibility – important elements to tribal cultures and equally important in the modern life. ‘Living by Sun’ means working hard on the scorching sun rays, that will sweat you out. It means you have to labour very hard. ‘Loving by Moon’ means to love the way as moon does, the way it provides coolness after a tiring day. So these means ‘Labour hard and love truly’.