**NAME: CHUKWUNONYELU ONUMSINACHUKWU MARY**

**DEPT: INTELLIGENCE AND SECURITY STUDIES.**

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**Assignment.**

**Earth surface**

**The Solar system** comprises of the sun and other planets, essentially the sun is the principal element in the solar system. It is the major source of light and energy through which other planets received illumination. The term **"solar"** is simply a word that means **"the Sun"**. Secondly, a system is just a collection of objects that interact to form a whole. Our solar system has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Pluto is no longer considered as a planet but a **Dwarf planet**. In terms of the numbers of each of these objects are;

* 1 star (The Sun)
* 8 planets
* 5 dwarf planets
* 181 moons
* 566,000 asteroids
* 3,100 comets
1. **Earth** is the third planet from the Sun and the only astronomical object known to harbour life. According to radiometric dating estimation and other evidence, Earth formed over 4.5 billion years ago. Earth's gravity interacts with other objects in space, especially the Sun and the Moon, which is Earth's only natural satellite. Earth orbits around the Sun in 365.256 solar days, a period known as an Earth sidereal year. During this time, Earth rotates about its axis 366.256 times, that is, a sidereal year has 366.256 sidereal days.

Earth's axis of rotation is tilted with respect to its orbital plane, producing seasons on Earth. The gravitational interaction between Earth and the Moon causes tides, stabilizes Earth's orientation on its axis, and gradually slows its rotation. Earth is the densest planet in the Solar System and the largest and most massive of the four rocky planets. Earth's outer layer (lithosphere) s divided into several rigid tectonic plates that migrate across the surface over many millions of years. About 29% of Earth's surface is land consisting of continents and islands. The remaining 71% is covered with water, mostly by oceans but also lakes, rivers and other fresh water, which all together constitute the hydrosphere.

1. **Mercury** is the closest planet to the Sun and is also the smallest of the eight planets in our solar system. It thus completes its orbit in a much shorter space of time than does by planet earth. A year in mercury is only 88 days, thus, it has the shortest orbit around the sun. It is the hottest of the entire planet since is the closest to the sun; therefore, mercury does not support the existence of any living organism; plant and animal as a result of its attendant high temperature. It is one of five planets that is visible to the naked eye.
2. **Venus** is the second planet from the Sun and the third brightest object in Earth's sky after the Sun and Moon. It is sometimes referred to as the sister planet to Earth, because their size and mass are so similar. Venus is also the closest planet to Earth. The surface of Venus is hidden by an opaque layer of clouds which are formed from sulphuric acid. The planet is named for Venus, the Roman goddess of love and beauty and is the second largest terrestrial planet. The orbit of the planet takes 225 Earth-days making a year on Venus. Venus is sometimes called Earth’s sister planet.
3. **Mars** is the fourth planet from the Sun and last of the terrestrial planets. Like the rest of the planets in the solar system (except Earth), Mars is named after a mythological figure - the Roman god of war. In addition to its official name, Mars is sometimes called the Red Planet because of the brownish-red colour of its surface. Mars is the second smallest planet in the solar system behind Mercury.
4. **Jupiter** is the largest and most massive planet in the Solar System. Jupiter has 67 confirmed moons orbiting the planet. These moons are separated into three groups: Inner moons; Galilean moons; and Outer moons. Jupiter has the shortest day of the eight planets. The planet rotates very quickly, turning on its axis once every 9 hours and 55 minutes. One orbit of the Sun takes Jupiter 11.86 Earth years. Its surface is made up of many gases like hydrogen, helium and methane. Also, it is distinguished from other planets by its circular light and dark bands.
5. **Saturn** is the sixth planet from the Sun and second largest planet of the Solar System in terms of diameter and mass. Saturn is known as a gas giant, but scientists believe it has a solid rocky core surrounded by hydrogen and helium. Saturn and Jupiter combined account for 92% of the entire planetary mass in the solar system. The interior of Saturn is very hot, reaching temperatures of up to 11,700°C (21,000 °F).
6. **Neptune** is the eighth planet from the Sun and last of the known planets. While it is the third largest planet with respect to mass of 102,410,000,000,000,000 billion kg, it is only the fourth largest in terms of diameter. Due to its blue coloration, Neptune was named after the Roman god of the Sea. It takes Neptune 164.8 Earth years to orbit the Sun. On 11 July 2011, Neptune completed its first full orbit since its discovery in 1846.
7. **Uranus** named after the father of the Roman god Saturn, is the seventh planet in the Solar System and third of the gas giants. It is the third largest planet by diameter, yet fourth most massive. Unlike others planets, Uranus orbits around the sun in a clockwise direction from east to west with five satellites revolving round it. Uranus is the coldest planet in the solar system. The minimum surface temperature on Uranus is -224°C – making it the coldest of the eight planets.

Number of Moons and Rings among Planets in the Solar System.

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| Planets |  Rings  | Moons  |
| Mercury  | None  | None  |
| Venus  | None  | None  |
| Earth  | None  | 1  |
| Mars  | None  | 2 |
| Jupiter  | 4 | 67 |
| Saturn  | 30 | 62 |
| Uranus  | 13 | 27 |
| Neptune  | 5 | 14 |

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