

Pollution

Pollution:

Introducing unnatural elements into a natural environment. This often changes the environment in ways that may harm living resources and ecosystems and endanger human health.



Credit: U. S. Fish and Wildlife Service

Light Pollution

Light Pollution:

Too much outdoor light (glare and light trespass) that causes a glow above a city. It interferes with viewing the night sky and can disrupt surrounding environments.

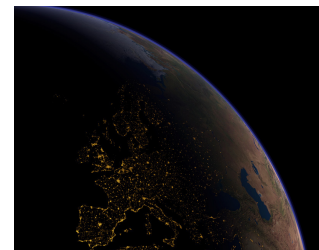


Credit: International Dark-Sky Association

Atmosphere

Atmosphere:

The gases surrounding an object in space, such as the air surrounding Earth.



Credit: International Dark-Sky Association

Mass

Mass:

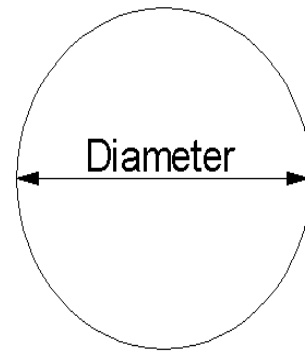
A measurement of how much material an object is made of.



Diameter

Diameter:

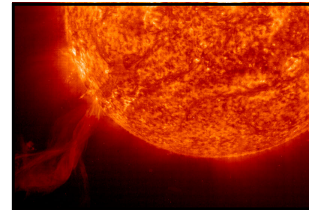
The distance of a straight line across the center of a circle.



Photosphere

Photosphere:

The layer of the sun that emits the light seen from Earth.

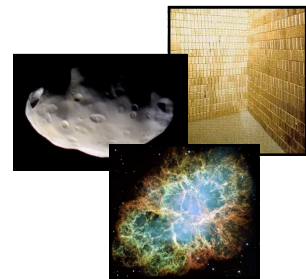


Images Courtesy NASA/JPL-Caltech

Elements

Elements:

Different types of material that space objects can be made out of, such as hydrogen and helium.



Images Courtesy NASA/JPL-Caltech

Erosion

Credit: U. S. Fish and Wildlife Service

Erosion:

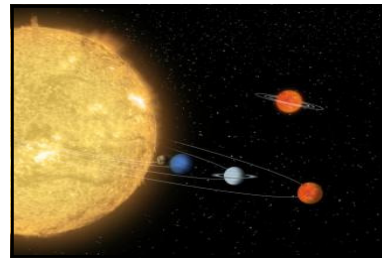
The natural processes of wind and rain that wear away and change the shape of the land.



Orbit

Orbit:

The path that an object in space follows around another object, such as the path the Earth follows around the sun.



Images Courtesy NASA/JPL-Caltech

Telescope

Telescope:

An optical device that uses lenses and mirrors to collect and focus light so humans can see distant objects.



Crater

Crater:

A depression or cavity that is made on a space object when it is struck by another object.

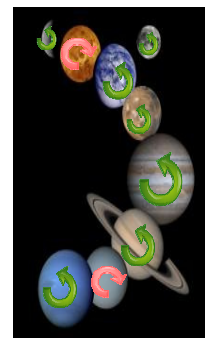


Images Courtesy NASA/JPL-Caltech

Retrograde Rotation

Retrograde Rotation:

When an object rotates opposite directions from the usual rotation of nearby celestial bodies. For example, an observer looking down on the entire solar system would see that all of the planets rotate counter-clockwise, except for Venus and Uranus which rotate clockwise.



Images Courtesy NASA/JPL-Caltech

Plate Tectonics

Plate Tectonics:

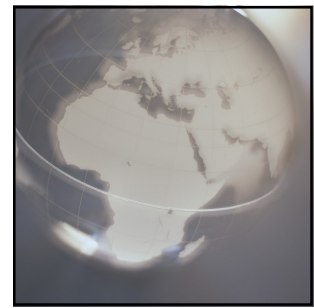
The theory that plates underneath the surface of a planet move, which creates mountains, trenches, and volcanoes, and cause earthquakes, tsunamis, and volcanic eruptions.



Hemisphere

Hemisphere:

Either the top half of a planet or the bottom half of a planet. Earth is divided in half by the equator.



Asteroid

Images Courtesy NASA/JPL-Caltech



Asteroid: A rock that orbits the sun in the solar system but is too small to be considered a planet.

Galileo

Galileo:

An Italian scientist who contributed to several different sciences. In astronomy, he is noted for being the first person to use a telescope for astronomical purposes.





Galaxy:

A collection of stars that orbit around a common center point. For example, our sun is one of over 2 billion stars that orbit around a large black hole. All of these stars are known as the Milky Way Galaxy.



Images Courtesy NASA/JPL-Caltech



Fully-Shielded:

A light fixture that is designed to focus light toward the ground. No light shines above the 90 degree plane or directly towards the stars.

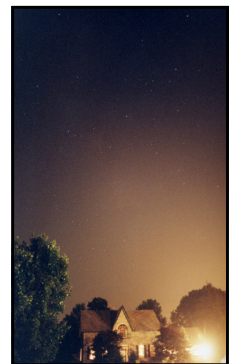
Credit: International Dark-Sky Association



Sky Glow:

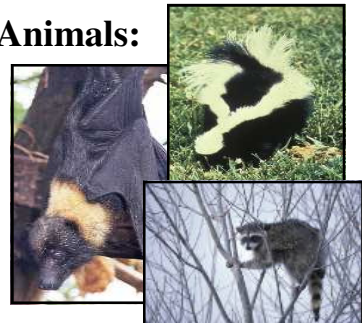
A brightening of the night sky by manmade outdoor lighting that blocks the view of the stars.

Credit: International Dark-Sky Association



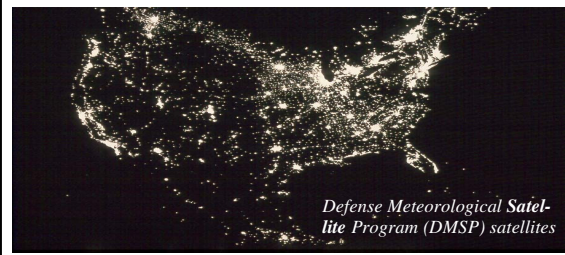
Nocturnal Animals:

Animals who are mostly active during the night instead of the day.



Credit: (from left to right) photos by Dave Menke, Ann Hudgins, John Collins/ U.S. Fish and Wildlife Service

Artificial Lighting



Defense Meteorological Satellite Program (DMSP) satellites

Artificial Lighting:

Light that is human made, not by nature.

Glare

Glare:

An intense and blinding halo of light that causes you to squint.



Credit: International Dark-Sky Association

It comes from an unshielded or partially shielded light fixture and contributes to sky glow.

Light Trespass

Light Trespass:

Outdoor lighting that falls where it is not wanted or needed, such as through a bedroom window when you are trying to sleep.



Credit: International Dark-Sky Association

Migration

Migration:

When animals of the same species travel to different locations for different seasons, such as birds, elk, salmon, whales, etc.



Credit: D Dibenski /U.S. Fish and Wildlife Service

Amphibians

Amphibians:

A vertebrate (having a backbone) that lives on both land and water, such as frogs, toads, and salamanders.



Credit: Charles H. Smith/U.S. Fish and Wildlife Service

Wattage

Wattage:

A measurement of the power needed to operate an electrical device, such as a hair dryer or a light bulb.



Motion Sensors



Credit: International Dark-Sky Association

Motion Sensors:

A device that turns security lights on if movement is detected.

Timers

Timers:

A timing device that turns lights on an off at specific times of the day or night.



Satellite

Satellite:

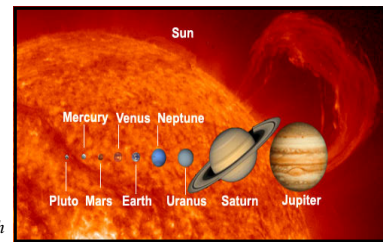
A manmade electronic device that orbits Earth, such as the satellites that allow you to transmit cell phone calls.



Images Courtesy NASA/JPL-Caltech

Solar System

Solar System: The expanse of space near the sun, which includes Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, asteroids, comets, and meteoroids.

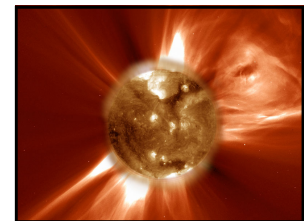


Images Courtesy NASA/JPL-Caltech

Sun

Sun:

The star nearest to Earth, which provides the solar system with most of its natural energy and consumes more than 98% of all the mass in the solar system. Most objects in the solar system orbit around it.



Images Courtesy NASA/JPL-Caltech

Mercury

Mercury:

This planet is nearest to the sun, small, and has no atmosphere. This means there is no wind or rain to erode the land and change the way it looks.



Images Courtesy NASA/JPL-Caltech

Venus

Venus:

This planet is known for rotating backwards (clockwise) and being the hottest planet in the solar system, 900° F on the average day.

Its day is also longer than its year.



Images Courtesy NASA/JPL-Caltech

Earth

Earth:

This planet is known for being the only one with liquid water and life.



Images Courtesy NASA/JPL-Caltech

Mars

Mars:

This planet is known for being the most likely planet to have had life before Earth. It is also the most explored planet by unmanned spacecraft.

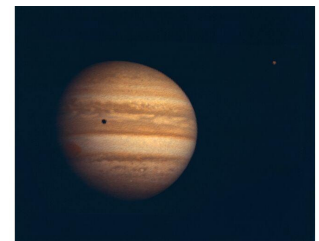


Images Courtesy NASA/JPL-Caltech

Jupiter

Jupiter:

This planet is 11 times the size of Earth. It is made of gas, has over 60 moons, and has a famous storm that is at least twice the size of Earth and has lasted for over 300 years.

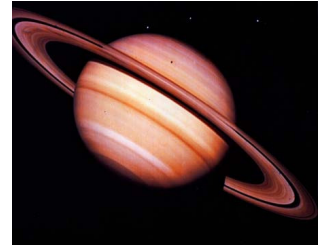


Images Courtesy NASA/JPL-Caltech

Saturn

Saturn:

This planet is known for its massive rings. It is also the second largest planet in the solar system, being 9 times larger than Earth. It is completely made of gas.



Images Courtesy NASA/JPL-Caltech

Uranus

Uranus:

This planet is known for being “the lazy planet” because it orbits on its side. It’s also mostly made of the gas helium.



Images Courtesy NASA/JPL-Caltech

Neptune

Neptune:

This planet is known for being the first planet discovered mathematically rather than by observation. It is mostly made of a gas called methane.

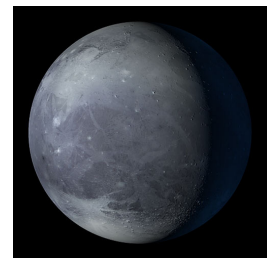


Images Courtesy NASA/JPL-

Pluto

Pluto:

This (minor) planet is known for being the furthest from the sun. It is made mostly of rock and ice. Recently, it has become a highly controversial subject as to whether or not it is actually a planet.



Images Courtesy NASA/JPL-Caltech

Comet

Comet:

These are known as the “dirty snowballs” of the solar system because they are made of dirt and ice. When they get close to the sun they begin to melt, which gives them the famous tail we see.



Images Courtesy NASA/JPL-Caltech

Meteoroid

Meteoroid:

These are smaller rocks that are in the solar system. Once they enter Earth’s atmosphere they are known as meteors (shooting stars). When they reach the ground they are known as meteorites.



Images Courtesy NASA/JPL-Caltech