THE EFFECT OF THE EARTH'S REVOLUTION

- One type of motion is known as "Revolution". Revolution is when one object completes a circular path around another object. The earth takes 365.24 days to revolve around the sun. This is why a year is 365 days long. During the year the earth is angled differently towards the sun. These changing angles provide us with different Sun intensities and therefore we get four different seasons.

CORIOLIS EFFECT:-

Defection of wind due to rotation of Earth.

ROTATION AND REVOLUTION RELATED PHENOMENON:-

The effect of Earth's rotation.

- When watching the stars at night, they do appear to move very slowly. This is because the earth is constantly moving. The earth completes one **Rotation** in every twenty four hours.
- A rotation is when the planet spins around once. The earth rotates counter clockwise; this is why the sun rises in the East and sets in the West.
- It is not the sun's movement that causes day but rather the earth turning around in front of the sun. The earth's axis (the point at which it rotates around it) for example if you were to spin around while standing in one spot, your axis would be an imaginary line running through your head straight down your feet is in line with a star named "Polaris".

- Polaris is also known as "North Star". It is directly above the earth's axis.

EARTH'S DAY AND NIGHT:-

- Another effect of Earth's rotation is that we have a cycle of daylight and darkness approximately every 24 hours. This is called a day. As Earth rotates, the side of Earth facing the sun experiences daylight and the opposite side(facing away from the sun) experiences darkness or night time.
- Since the Earth completes one Rotation in about 24 hours, this is the time it takes to complete one day-night cycle.
- As the earth rotates, different places on earth experiences sunset and sunrise at different time. As you move towards poles, summer and winter days have different amount of daylight hours in a day.
- For example, the northern hemisphere. We begin summer on June 21. At this point, the earth North pole is directly towards Sun.
- Therefore the North areas have longer days and shorter nights. Since the southern half of the earth is pointed away from the sun at this point they have the opposite effect longer night and shorter days.

HOW LUNAR ECLIPSE OCCURES??

- A lunar eclipse occurs when the moon passes directly behind the Earth into its shadow. This can occurs only when the sun, Earth and moon are aligned with the Earth in the middle.

- Hence a lunar eclipse can occur only the night of a full moon. The type and length of an eclipse depend upon the moon's location relative to its orbital nodes.
- A total lunar eclipse has the direct sunlight completely blocked by the earth's shadow. The only light seen is refracted through the earth's shadow. This is light looks red for the same reason that the sunset looks red, due to ray Leigh scattering of the moon blue light.
- Because of its reddish colour a total lunar eclipse is sometimes called **Blood Moon.**

HOW SOLAR ECLIPSE OCCURS???

- Sometimes when the moon orbits Earth, it moves between the sun and Earth. When this happens the moon blocks the light of the sun from reaching the earth.
- This cause an eclipse of the sun, or solar eclipse. During a solar eclipse, the moon casts a shadow onto **Earth.**

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Earth's Rotation vs Revolution

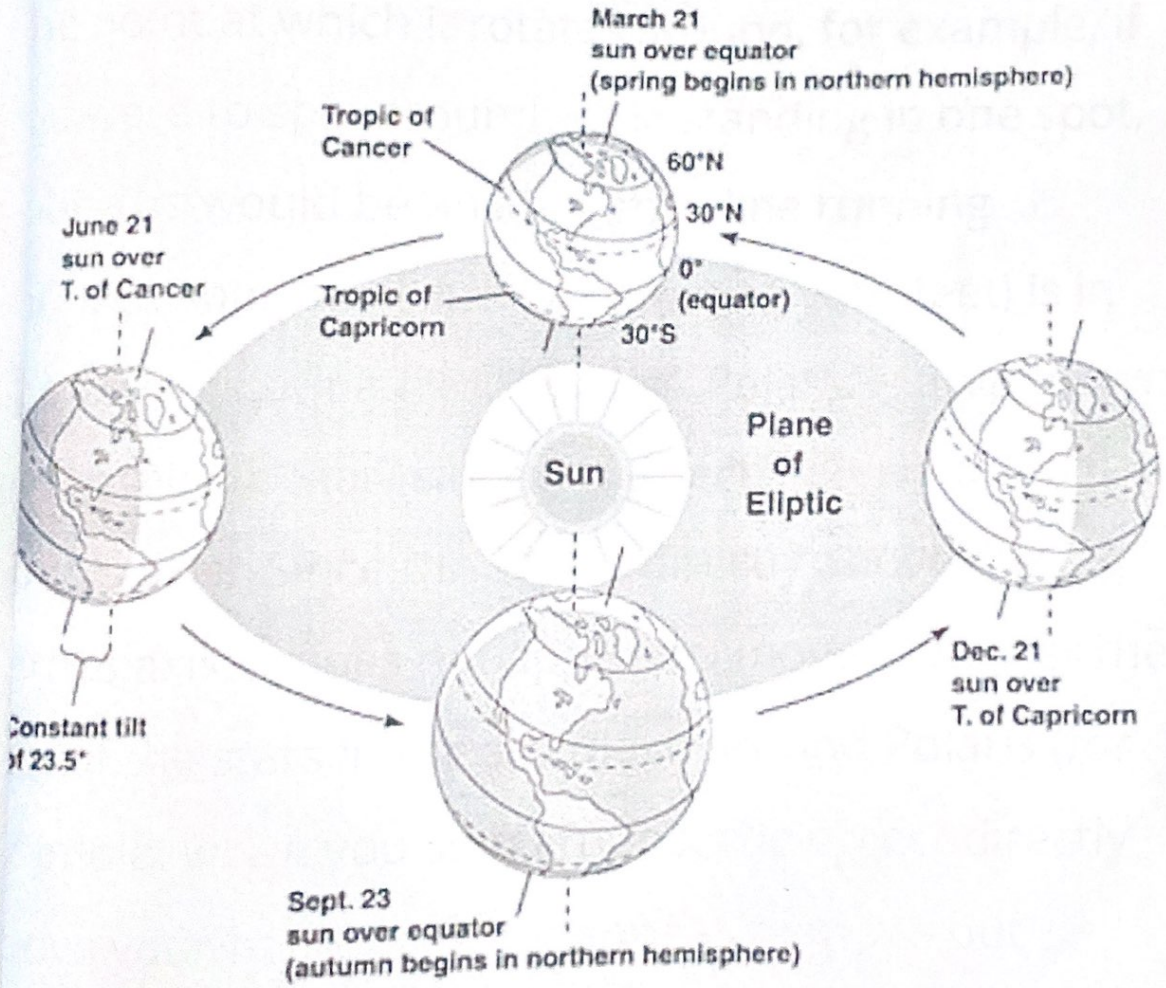
Rotation of the earth describes the spinning of the earth around its axis, resulting in the 24 hour phenomenon of day and night over the earth. Revolution on the other hand describes the movement of the earth around the sun over a period of one year, causing seasons to occur.

Rotation of the earth causes difference in time over countries and continents. The parts of the earth that are in front of the sun experience day, while the part of the earth away from the sun has night. During the course of revolution depending upon which hemisphere of the earth is closer to the sun, and which one is farther, we have summer and winter respectively. When both the hemispheres are equidistant from the sun there is spring or autumn or fall.

The rotation of the earth around its axis follows the west to east path. The path of the earth around the sun during revolution is an ellipse rather than a circle and this is the reason why the earth is closer to the sun sometimes and farther from it other times, thus causing seasonal fluctuations in weather known as seasons.

The Effect of the Earth's Rotation & Revolution

When watching the stars at night, they do appear to move very slowly. This is because the Earth is constantly moving. The Earth completes one "rotation"



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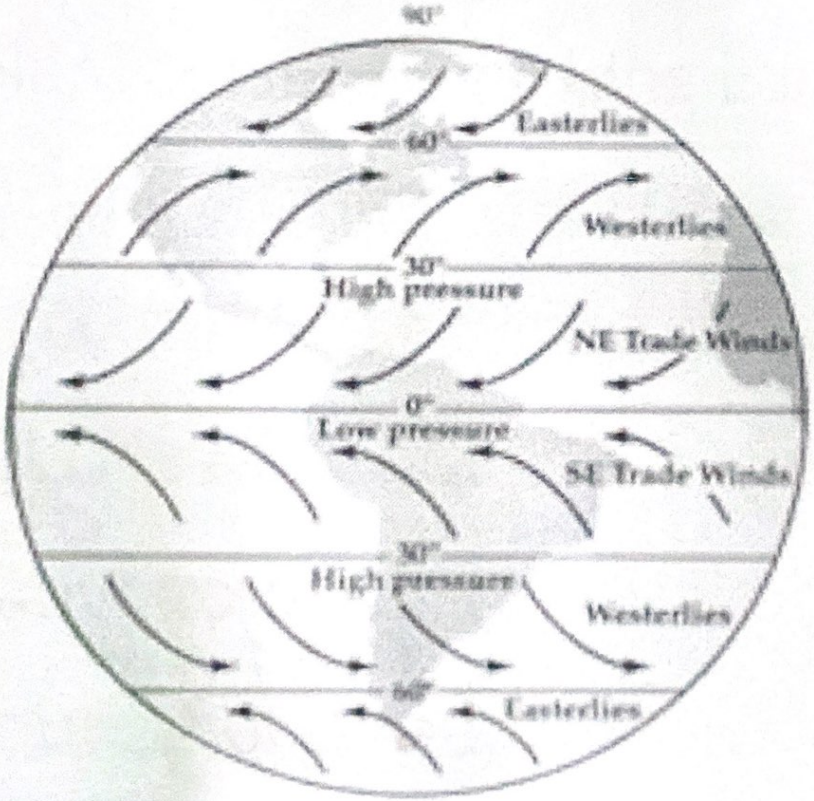
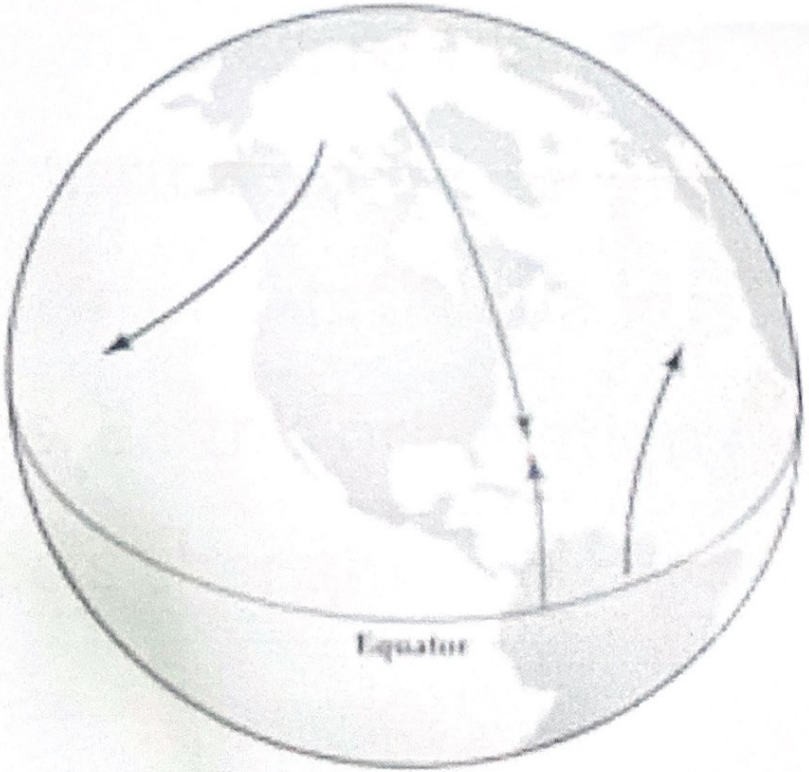
Coriolis Effect: Defection of wind due to rotation of Earth





THE EFFECT OF PLANET'S MOTION

housands of years ago, people were able to clearly ee the night sky (no "light pollution"). The one thing ney noticed is that five "stars" seemed to wander ster through the night sky than other stars. These tars" were actually the planets Mercury, Venus, ars, Jupiter, and Saturn. People called these objects vandering stars". Their names were then changed planets which is after the Greek word "planetes" hich means "wanderers". All planets rotate on their es and revolve around the Sun, however these nes are different for each planet. Planets move rough constellations as well. This motion usually kes a few weeks. Many constellations are named ter animals. The Greek word for "animal sign" is odion". This is why we have star groups called the

odiac constellations. Depending on which zodiac onstellation was visible when you were born is the ign" you have been assigned. For example: quarius, Leo, Gemini, Sagittarius, etc. Many people elieve that zodiac signs determine certain traits and haracteristics of people. This is known as strology" and is not a legitimate science based on uth or facts. Astrology is simply for entertainment.

Revolution Around the Sun vs. Rotation upon Axis

evolve, as in orbiting the Sun? Yes, all the planets in ur solar system orbit the Sun in the same direction rth does. Some comets and asteroids orbit ckwards, and some (more so comets than teroids) orbit virtually perpendicular to the plane

f Earth's orbit.

otate, as to spin on ones axis (the thing that causes ay and night on Earth)? Earth rotates counter-ockwise, as seen from above Earth's north pole, the ame direction it revolves around the Sun. But two lanets (used to be 3, when Pluto was a planet) otate clockwise – Venus and Uranus. Some might uibble about Uranus, as it spins on its side, but chnically it rotates clockwise.

hy do they all revolve in the same direction, and ost rotate in the same direction? Because of the ay the solar system formed. It formed out of a ebula – a giant cloud of gas and dust in space. This oud had a slight rotation to it. Gravity caused the ust and gas to come together, but since the nebula as spinning, it collapsed into a disk instead of a here. The center of the disk, that's where the Sun