EARTH'S CYCLES

EARTH – MOON SYSTEM

- THE MOVEMENTS OF THE EARTH-MOON SYSTEM AROUND THE SUN PRODUCE THE DAILY, MONTHLY, AND YEARLY CYCLES THAT WE USE TO MEASURE TIME
- THEY ARE HELD TOGETHER BY THE PULL OF GRAVITY

E. Se



• What is the name of the imaginary line that goes through the center of the Earth and that Earth spins around?

Earth

- Rotates around its axis once every 24 hours (actually 23 hours 56 minutes and turns west to east)
- The axis is always tilted in the same direction
- Revolves around the Sun once every 365 days (the path is called an orbit)
- The tilt of the axis and the motion around the Sun cause changes in the seasons, length of days, and energy available
- The revolution around the Sun also results in different constellations being visible during different seasons

Moon

- We can see the Moon only because it reflects sunlight
- The parts we can see are called "phases" of the Moon
- The phases (shapes) depend on the positions of the Sun, Moon, and Earth
- The lunar cycle lasts about a month
- Each time it rotates once around its axis, it revolves once around Earth
- It takes about 27.3 days to make one complete revolution around Earth
- The difference in the pull of the Moon's gravity (and Earth's spin) on the oceans on opposite sides of the Earth results in two high and low tides a day in coastal areas

PHASES OF THE MOON



ECLIPSE

• What event occurs when one object in space passes between the Sun and another space object and casts a shadow on the space object?

ECLIPSES

Lunar eclipse

- The Moon passes through Earth's shadow
- The eclipse may be partial or total

Solar eclipse

- The Moon passes between the Sun and the Earth
- The eclipse may be partial or total

Comparison of lunar and solar eclipses



GK Questions and Answers on Lunar and Solar Eclipses



Lunar eclipse



Solar eclipse



Cause and Effect

CAUSE

Earth rotates on its axis

Earth revolves around the Sun

Earth's axis is tilted in the same direction as it revolves around the Sun

The Moon revolves once around the Earth

The Moon passes through Earth's shadow

The Moon's shadow passes across Earth

EFFECT

Night and day

A year

Seasonal changes

Phases of the Moon

A lunar eclipse

A solar eclipse

STARS

- Stars are hot balls of gas
- The closest star to the Earth is the Sun
- The North Star (Polaris) appears in the sky above the North Pole
- The shapes and patterns that stars make in the sky are called constellations

North Star

