UNIVERSE - INTERESTING FEATURES – EARTH, MOON, SUN, MILKYWAY, GALAXY– (PREPARED IN THE MAY - 2019)

	Average distance between sun and earth &moon and earth			
1	Average Distance between sun and earth	14,95,98,262 KMs.	15 Crores KMs Appx.	*For more details see Page – 4 (1)*
2	Average Distance between Moon and Earth	3,84,403 KMs.	3.85 Lakhs KMs. (Appx.)	*Sun is 390 times more far (3.85L Kms X 390=15 Cr.)*
3	Earth's average orbital speed is about 30 KMs per second. {or 1,10,000 KMs. per hour}, whereas rotation Speed is1670 K.Ms. per Hour {27.8 KMs per Minute, 0.46 Kms. Per Sec.Distance of earth travel in one year (Length of orbit) 94 Cr. KMs			
	Circumference and Diameter of Earth, Moon, Sun			
1	Circumstances of the earth at equator(The distance around the Earth at the Equator)		40075 KMs	*For more details see Page – 4 (3)*
2	Diameter of the earth		12.756 KMs	
3	Circumference of the Moon		10961 KMs	
4	Diameter of Moon		3,474.2 KMs	
5	Circumference of the Sun		43.79 Lakhs KMs	
6	Diameter of Sun		13.91Lakhs KMs	
	Time takes for one rotation for Earth, Moon and Sun			
1	Time takes for earth for one Rotation-A day		23 Hrs.56 Mts. 04.09053 Secs.	
2	Time takes for moon for one Rotation- A day		27.322 days *(Sidereal day)*	
3	Time takes for Sun for one Rotation- A Day		25.38 days	
	Astronomers measure the rotation rate of the Sun from an arbitrary position of 26° from the equator; around the point where sunspots are observed. At this point, it takes 25.38 days to rotate and return to the same spot in space. So that would beone DAY on the Sun for all practical purposes.			
	Average moving speed of Earth, Moon and Sun (Rotation on its axis)			
1	Average moving speed of earth *{(Rotates on its axis) (At the equator)}.*	1670 K.Ms. per Hour {27.8 KMs per Minute, 0.46 Kms. Per Sec. *{Circumstances of the earth at equator is 40075 KMs/24 Hrs. a day=1670 KMs.}*		*How fast are you moving when sitting still*
2	Average moving speed of moon {(Rotates on its axis) (Appx.)}	24 KMs per Hour *{The equatorial circumference of the Moon is 10961 KMs./456 Hours (27 Days 7 H 43.1 M 2.9 Secs) (Appx. 456 Hours)}= 24 KMs per Hour. {For more details about moon See page No. 8}*		
3	Average moving speed of SUN (Rotates on its axis)	On average, the sun rotates on its axis once every 27 days. {"Since the sun is a ball of gas/plasma(Sun is n't a solid object like a planet), it does not have to rotate rigidly like the solid planets and moons do," {Its rotation is harder to pinpoint}		
	Orbital Period *(To take a round)* of earth, moon and Sun			
1	Orbital Period of earth *(To take a round around Sun)*		365.25 days *For more details see Page – 4 (6)*	
2	Orbital Period of moon *(To take a*		27.321582 Earth days	

	round around earth){27 1/3 days (Appx.])}	(27 Days 7 H 43.1 M 2.9 Secs.
	Moon takes 27.32 days to rotate on its axis and orbital period of moon is same time to rotate on its axis, as a result the moon always presents it's same side to the earth. Scientists call this synchronous rotation. What this means is that the Moon is tidally -locked with Earth.	
3	ORBITAL PERIOD OF SUN (To take around {(Does the Sun move around the Milky Way?) (Answer is Yes)}	Our whole solar system, orbits around the center of the Milky Way Galaxy. (*For more details see Page – 6)* We are moving at an average velocity of 828,000 km/hr. But even at that high rate, it still takes us about 230 million years to make one complete orbit around the Milky Way.

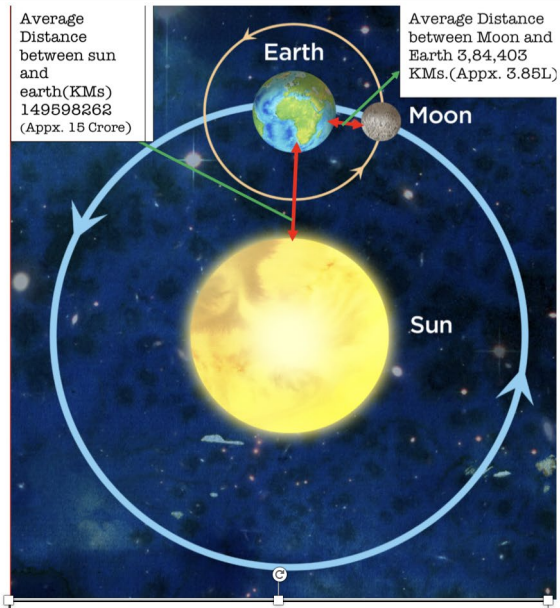
On Page 4 (8 & 9): Information about Equinox (Equal day and night) and Solstice (Long day and Long night are available

UNIVERSE - INTERESTING FEATURES (Cntd.)

	How many minutes does the Sun light take to reach the E arth = 8 Mts. 20 Secs.	**Average Distance between sun and earth is14,95,98,262 KMs.** /(Divided by) **Travelling speed of Light is 2.99 Lakh KMs per Sec**.=500 KMs per Sec.= 500/60 =8.33 Mts. (8 Mts. 20 Secs.)	Another theory is time taken for the journey (from the Sun's *surface* to the Earth's) will vary between 8.14 and 8.42 minutes,	
3	**Travelling speed of Light (TSL)**		**SPEED OF**	**Mtrs. P/Sec**
	A. Light second{Travelling Speed of Light in a Second}	**2,99,792.458**(3 Lakhs. KMs per/Second)	**Light**	**30 Cr.**
	B. Light minute(Light Second X 60)	**1.79,87,547.48**	**Explosion**	**8000**
	C. 1 Light hour(Light Minute X 60)	**107,92,52,848.8**	**Bullet**	**810**
	D.1 Light Day(LightHour X 24)	**2,590,20,68,371.19**	**Sound**	**343**
	E.1 Light-year (Light day X 365)	**9,46,073,04,72,580.79** (9.5 Lakh Crores or say 10 Trillion)	.	
4	**General Maximum speed of Passenger flight**	**900 to 1000 KMs per hour** {If way say it is **1000 KMs per Hour**. (**Per Minute** is 1000/60 = **16.66**KM.) **Per Second**it is 16.66/60=0.277Kms. **Per Second Meters** is 0.277 KMsX 1000 Mtrs.)**277 Mtrs./Sec**}		**277 Mtrs./Sec**
	Cruising altitude of Flight (Vertical distance from Sea level)	**25000 Ft. to 4000 Ft.** depend upon type and size of Aircraft Generally - say it goes up to the Ht. of **10 KMs.**(32808 Ft.) (Concorde flight travel at the Ht. of 60000 Ft.) Ht. of Mount Everest is 60000 Ft (8288 Mts.=**8.2 Mts**)		

UNIVERSE - INTERESTING FEATURES

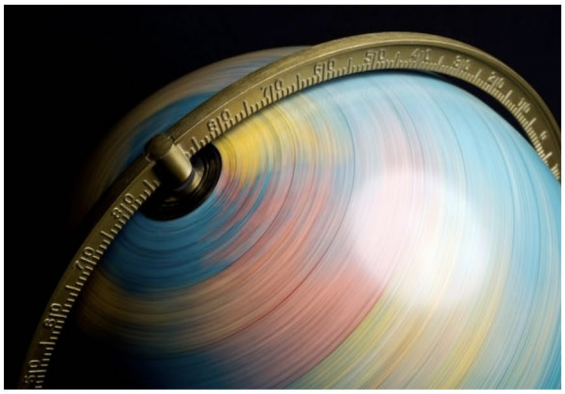
I. Average distance between sun and earth 14,95,98,262 KMs. & moon and earth 3,84,403 KMs.



Sun is 390 times more far from earth (3.85L Kms X 390=15 Cr.) when compared to moon from earth

II. (1) Average moving Speed of earth {Rotation on its Axis at the equator} - 1670 KMs. Per hour-(0.46 Kms. Per Sec)

{Circumstances of the earth at equator is 40075 KMs/24 Hrs. a day=1670 KMs.}

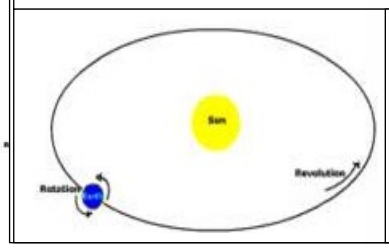


Average moving speed of moon {Rotation on its Axis} - 24 KMs per Hour

{The equatorial circumference of the Moon is 10961 KMs./456 Hours (27 Days 7 H 43.1 M 2.9 Secs) (Appx. 456 Hours)}= 24 KMs per Hour.

Average moving speed of SUN - once every 27 days. {"Since the sun is a ball of gas/plasma(Sun is n't a solid object like a planet), it does not have to rotate rigidly like the solid planets and moons do," {Its rotation is harder to pinpoint}

Earth's average orbital (Earth moving around Sun) speed is 30 KMs. Per Sec./



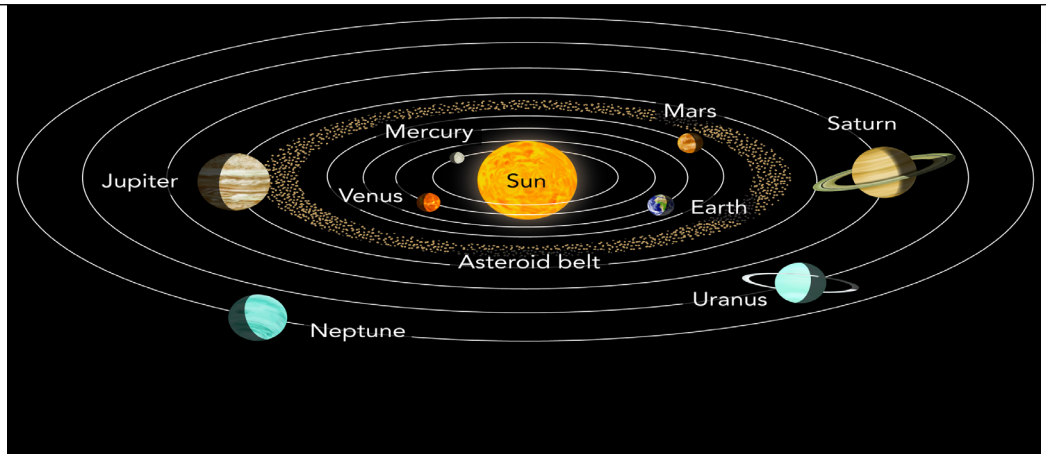
Length of Orbit is 94 Crore KMs.

Circumference and Diameter of Earth, Moon, Sun

	EARTH (KMs.)	MOON (KMs.)	SUN (KMs.)
Circumference	40075	10961	43,00,079
Diameter	12.756	3,474.2	13,00,091

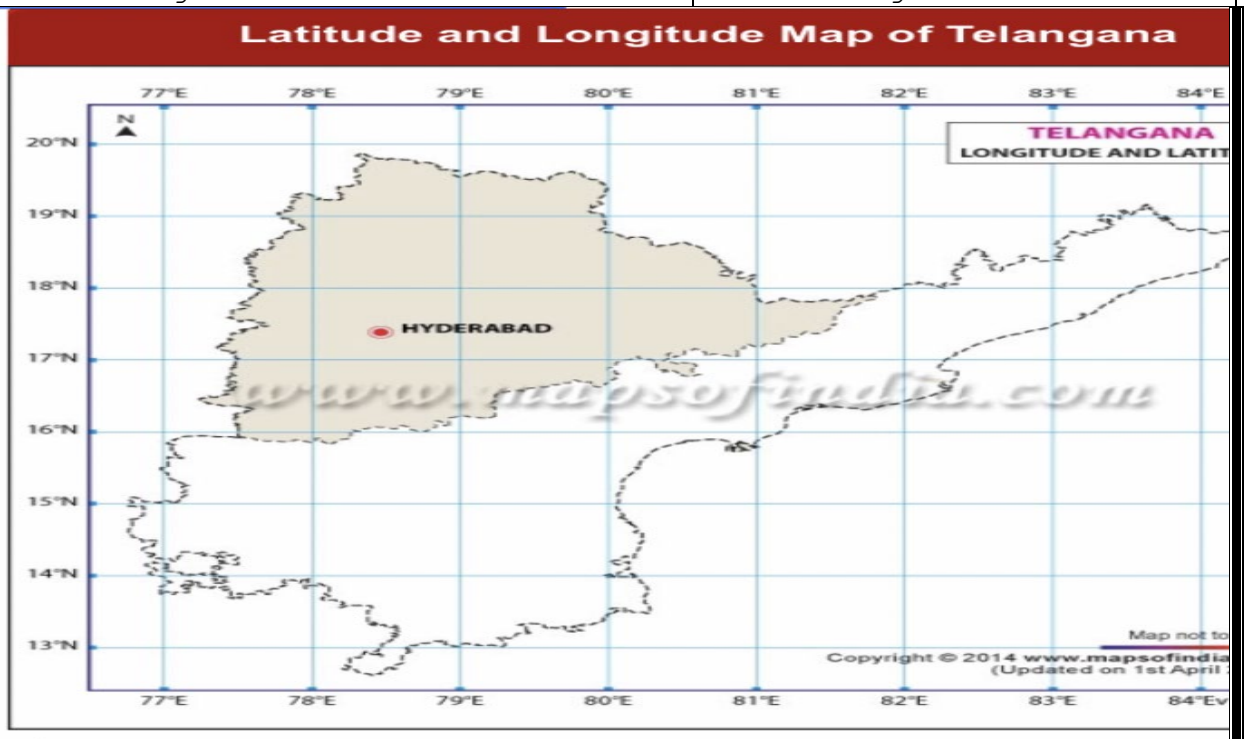
DISTANCES OF PLANETS FROM SUN

Planets	Mercury	Venus	earth	Mars	Jupiter	Saturn	Uranus	Neptune



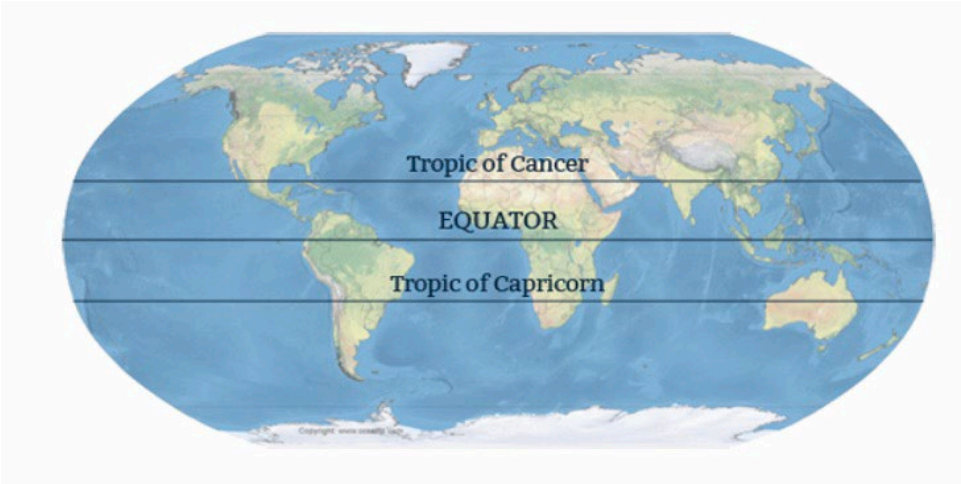
LATITUDES, LONGITUDES, TROPIC OF CANCER, TROPIC OF CAPRICORN

	Location	Latitudes/Longitudes
1	Hyderabad - Latitude. 17.385044 N	Longitude. 78.486671 E)
2	Telangana - Latitude 18 N	Longitude 79 E



*Map showing the Latitude and Longitude of the State Telangana,

1	Tropic of Cancer (Karkata Rekha) Passes through	**Madhya Pradesh - India**
2	Tropic of Capricorn(Makhara Rekha) Passes through	**Australia**



	INTERESTING FEATURES ABOUT EARTH	
1	Average Distance between sun and earth	14,95,98,262 KMs.
	The distance from the Earth to the Sun varies because the Earth's orbit around the Sun is elliptical. So, the time will vary by about 3% depending on the Earth's distance from the Sun	
2	Average Distance between Moon to Earth	3,84,403 KMs.
3	The distance around the Earth at the Equator (It is circumference)	40,075 KMs. (40K)
	The equatorial circumference of the Earth is 40,075 km. This is the distance around the equator of the Earth. If you measure the circumference of the Earth, while passing through the poles, the distance is only 40,007 km. This is because the Earth isn't a perfect sphere. It's rotating rapidly, which causes the equator to bulge out.	
4	Diameter of the earth	12.756 KMs
	The equatorial diameter of the Earth is 12,756 km. This is the diameter of the Earth measured from one side of the Earth, passing through the center. If you go from pole to pole through the center, the distance is only 12,713 kms.	
3	Average moving speed of earth *{(Rotates on its axis) (At the equator)}.*	1670 K.Ms. per Hour
	Earth's spin is constant, but the speed depends on what latitude you are located at. Here's an example. The circumference (At the equator)) is roughly 40,070 kilometers, according to NASA. If you estimate that a day is 24 hours long, you divide the circumference by the length of the day. This produces a speed at the equator of about1,670 km/h.	
4	Orbital Period of earth *(To take a round around Sun)*	365.25 days
5	Time for taking One Rotation on Axis:.	23 Hrs. 56 Mts. 04.09053 Secs.
6	Time for taking One Revolution around Sun:	365.25 days
	• *How long does the Earth take to travel around the Sun? Obviously, the answer is one year or 365.25 days. It is not so simple though as there are a number of definitions of a year. For example,* • *Tropical year, which is from equinox to equinox, that is from the time the Sun crosses the celestial equator from south to north to the next time 365.24219 days* • *Sidereal year, from one time a particular star is in a given position to the next time 365.25636 days* • *Anomalistic year, from the time the Earth is at its closest to the Sun to the next time 365.25964 days*	
7	**Water vs. Land: 70.8% Water, 29.2% Land**	
A	Surface Area of Total Earth (Land + Water)	51,01,00,500 Sq. Kms. (51 Cr.)
B	Surface Area of Earth (Only Land)	14,88,51,000 Sq. Kms.(14.9 Cr)
8	**Equinox (All most equal day and equal night)- This occurs twice each year: around 20 March and 23 September.** • The equinoxes are the only times when the Sun is perpendicular to the equator.	

	• As a result, the northern and southern hemispheres are equally illuminated. • The subsolar point crosses the equator moving northward at the March equinox and southward at the September equinox. • This occurs twice each year: around 20 March and 23 September. • On the day of an equinox, daytime and night time are of approximately equal duration all over the planet.
9	Age of the Earth: 4.5 to 4.6 billion years
10	**Solstice (In one hemisphere longest day and other hemisphere longest Night)** • The **summer solstice** (or **estival solstice**), also known as **midsummer**, occurs when one of the Earth's poles has its maximum tilt toward the Sun. • It happens twice yearly, once in each hemisphere (Northern and Southern). For that hemisphere, the summer solstice is when the Sun reaches its highest position in the sky and is the **day with the longest period of daylight**. {At the pole, there is continuous daylight around the summer solstice}. • The summer solstice occurs during summer[3]This is the June solstice in the Northern Hemisphere and the December solstice in the Southern Hemisphere. • Depending on the shift of the calendar, the **summer solstice occurs sometime between June 20 and June 22** in the Northern Hemisphere[4][5] • and between **December 20 and December 23** in the Southern Hemisphere.[6] • The same dates in the opposite hemisphere are referred to as the winter solstice.
11	**Other Facts**

	Highest Elevation on Earth - Everest, Asia	29,035 feet (8850 m)
	Tallest Mountain on Earth from Base to Peak - Mauna Kea, Hawaii: *(Rising to 13,796 feet above sea level) (4205 Mtrs.)*	33,480 feet
	Lowest Elevation on Land - Dead Sea:	1369 feet below sea level (417.27 m)
	Deepest Point in the Ocean - Challenger Deep, Mariana Trench, Western Pacific Ocean:	35,840 feet (10924 m)
	Highest Temperature Recorded: 135.8°F - Al Aziziyah, Libya, September 13, 1922	57.7°C
	Lowest Temperature Recorded: -128.5°F - Vostok, Antarctica, July 21, 1983)	-89.2°C
	Atmosphere Content: 77% nitrogen, 21% oxygen, and traces of argon, carbon	

	dioxide and water	
	Chemical Composition of the Earth: 34.6% Iron, 29.5% Oxygen, 15.2% Silicon, 12.7% Magnesium, 2.4% Nickel, 1.9% Sulphur, and 0.05% Titanium.	
	Distance around the Earth at the Equator (It is circumference) is 40,075 KMs. Therefore Minimum distance between any two places on the globe should not be more than around. : 20,000 KMs. The Shanghai city of China of Asian continent (Located in north east place) and Buenos Aries city of Argentina city (Located in South-West corner) of South America continent (earth) distance between two cities is 19,644 KMs.	

MILKYWAY – GALAXY {Orbital Period of the Sun}

StarChild Question of the Month for February 2000

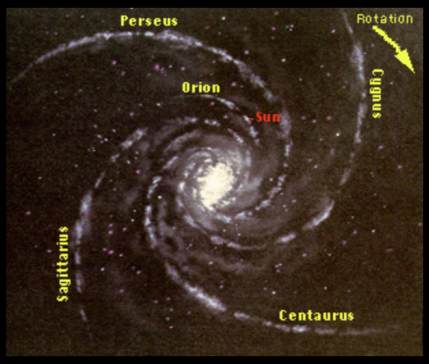
Question:

Does the Sun move around the Milky Way?

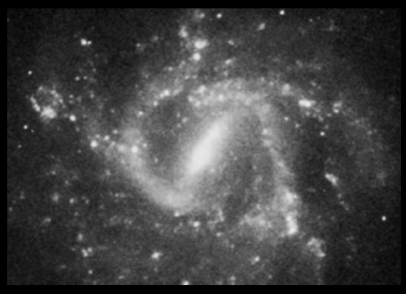
Answer:

Yes, the Sun - in fact, our whole solar system - orbits around the center of the Milky Way Galaxy. We are moving at an average velocity of 828,000 km/hr. But even at that high rate, it still takes us about 230 million years to make one complete orbit around the Milky Way!

The Milky Way is a spiral galaxy. We believe that it consists of a central bulge, 4 major arms, and several shorter arm segments. The Sun (and, of course, the rest of our solar system) is located near the Orion arm, between two major arms (Perseus and Sagittarius). The diameter of the Milky Way is about 100,000 light-years and the Sun is located about 28,000 light-years from the Galactic Center. You can see a drawing of the Milky Way below which shows what our Galaxy would look like "face-on" and the direction in which it would spin as viewed from that vantage point. Also shown, is the location of the Sun in the big picture view of our Galaxy.



It is interesting to note that recent observations by astronomers suggest that the Milky Way is in fact a "barred spiral galaxy", not just a "spiral galaxy". This means that rather than a simple spherical bulge of gas and stars at its center, it has instead a "bar of stars" crossing the central bulge. It might look something like the image shown below of the barred spiral galaxy known as NGC1073. But we still rotate around the center just the same!



The Milky Way (Pala Puntha) is a barred spiral galaxy with a diameter between 150,000 and 200,000 light-years (ly).[22][23][24][25] It is estimated to contain 100–400 billion stars[26][27] and more than 100 billion planets.[28][29] The Solar System is located at a radius of 26,490 (± 100) light-years from the Galactic Center,

A **galaxy** (నక్షత్రవీధి

)is a gravitationally bound system of stars, stellar remnants, interstellar gas, dust, and dark matter.[1][2] The word galaxy is derived from the Greek *galaxias* (γαλαξίας), literally "milky", a reference to the Milky Way. Galaxies range in size from dwarfs with just a few hundred million (10^8) stars to giants with one hundred trillion (10^{14}) stars,[3] each orbiting its galaxy's center of mass.

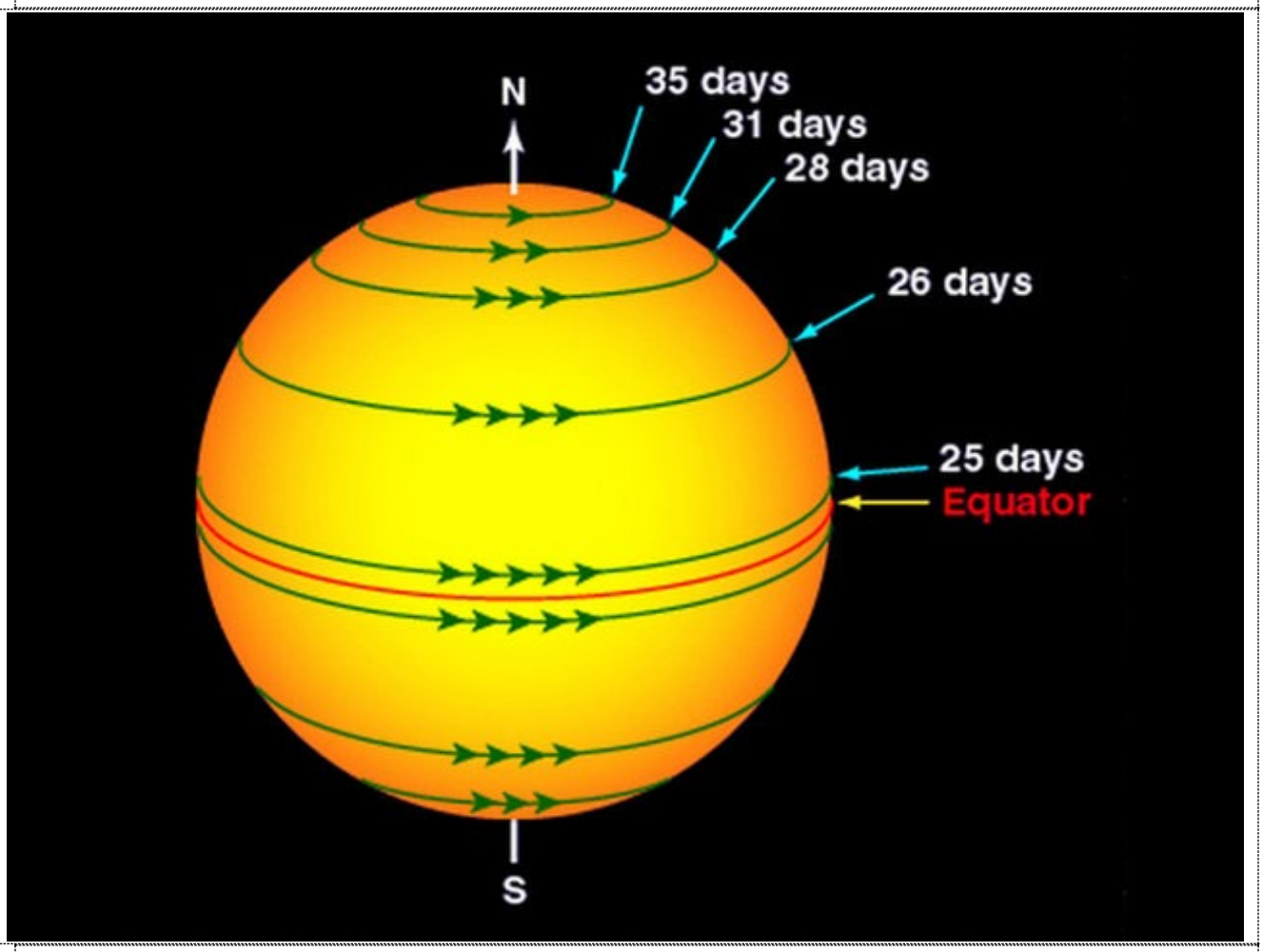
ON AVERAGE, THE SUN ROTATES ON ITS AXIS ONCE EVERY 27 DAYS.

It takes 24 hours for the Earth to make a full rotation, but since the sun isn't a solid object like a planet, its rotation is harder to pinpoint.

"Since the sun is a ball of gas/plasma, it does not have to rotate rigidly like the solid planets and moons do," according to NASA.

In fact, our gaseous sun is divided into different zones and layers, with each of our host star's regions moving at varying speeds. On average, the sun rotates on its axis once every 27 days. However, its equator spins the fastest and takes about 24 days to rotate, while the poles take more than 30 days. The inner parts of the sun also spin faster than the outer layers, according to NASA.

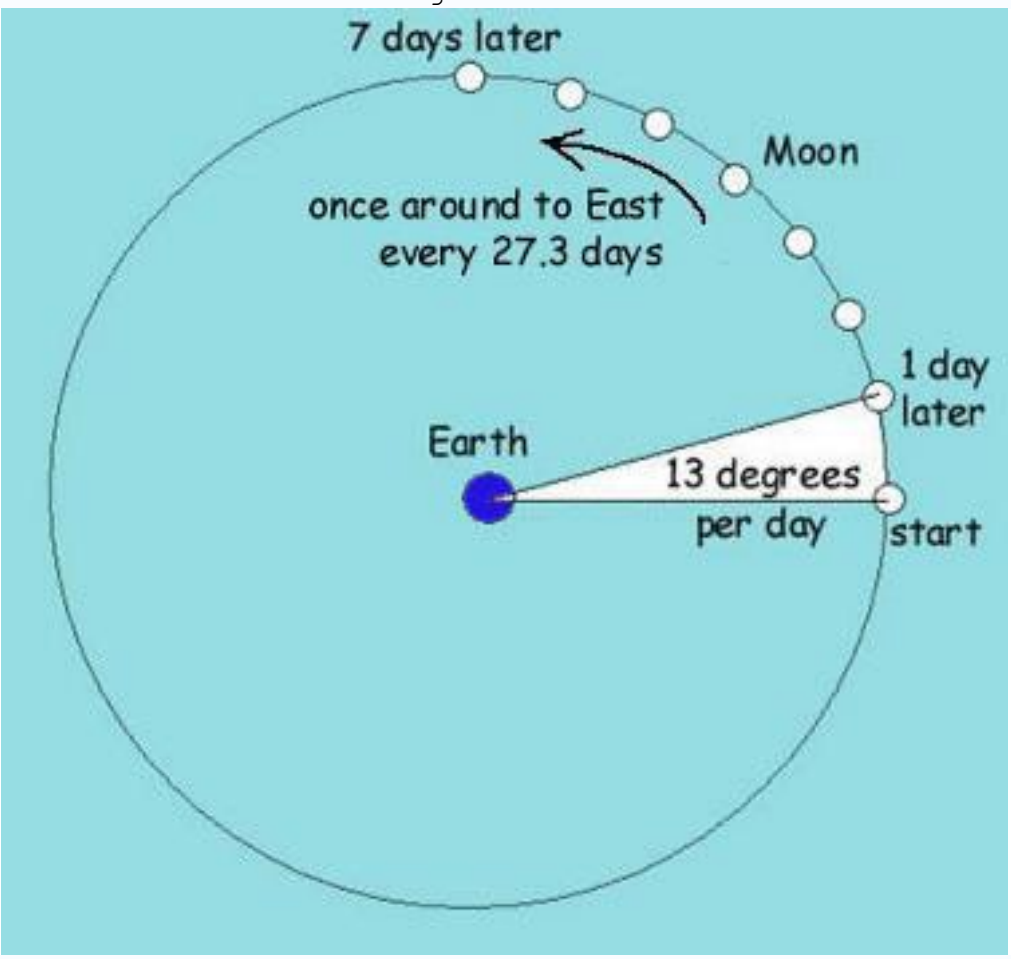
SUN



The Average Motion of the Moon

The Moon moves around the Earth in an approximately circular orbit, going once around us in approximately 27.3 days, or one *sidereal period of revolution*. As it does this its position changes, relative to the stars.

Since there are 360 degrees in a circle, the Moon moves (on the average) 360 / 27.3 or 13.2 degrees per day relative to the stars, which is just over half a degree per hour, and approximately equal to its apparent size. This means that from night to night the Moon moves a little more than one hand-width to the East (the direction of its motion around the Earth) relative to the stars, and from hour to hour it moves about one diameter to the East, among the stars.



An approximate representation of the motion of the Moon around the Earth. Moving once around in 27.3 days, its average movement is about 13.2 degrees per day, or 92 degrees per week. (As is usual in such diagrams the sizes of the Earth and Moon are exagerrated, in comparison to their separation.)

LIGHT YEAR
Li**ght year** (symbol: ly), is a unit of length equal to just under 10 trillion kilometres (or about 6 trillion miles). As defined by the International Astronomical Union(IAU), a light-year is the distance that light travels in a vacuum in one Julian year.[1] The light-year is mostly used to measure distances to stars and other distances on a galacticscale, especially in non-specialist and popular science publications. The preferred unit inastrometry is the parsec (approximately 3.26 light-years), because it can be more easily derived from, and compared with, observational data.[1]{Note that the light-year is a measure of **distance** (rather than, as is sometimes misunderstood, a measure of time).}
1 light-year = 9460730472580800 metres (exactly) ≈ 5878625 million miles ≈ 63241.1 astronomical units ≈ 0.306601 parsecs. The figures above are based on a Julian year (notGregorian year) of exactly 365.25 days (each of exactly86400 SI seconds, totalling 31557600 seconds)[2] and a defined speed of light of 299792458 m/s, both included in the IAU (1976) System of Astronomical Constants, used since 1984.[3]

6.Gravity is the force of attraction that exists between any two objects.

- the more massive two objects are, the stronger the force of gravity between them
- the farther apart two objects are, the weaker the force of gravity between them

    - If an object is launched from the surface of the Earth, it needs to reach a certain speed called the escape velocity in order to break free of the Earth's gravity. This speed is about 7 miles per second, or 25,000 miles per hour. If the object doesn't reach escape velocity, it will either crash back into the Earth, or enter into orbit around it, as satellites or the space shuttle do.
    - To completely escape the earth's gravitational pull the crew must reach a distance of at least 400 km away,that is why the iss (international space station) is at an average distance of 250 km from the earth constantly. The pull is strong enough to keep them at a distance, but not strong enough to pull them back to the ground.
    - To reach a point where Earth's gravity is reduced to one-millionth of that on Earth's surface, one would have to be 6.37 million kilometers [3.73 million miles] away from Earth (almost 17 times farther away than the Moon).
    - Even at that point, you still have not totally escaped the Earth's gravity, it is merely too weak to have much of an effect. In fact, as another NASA site explains, "The effect of gravity extends from each object, indefinitely into space in all directions." The key word here is "indefinitely." No matter how far you go, you can never fully

escape the pull of the Earth, a somewhat comforting thought when faced with the vast and endless expense of space.

- Technically, it goes on forever, BUT it weakens quickly as the distance from the Earth increases. This is one expression of the Inverse Square Law. For gravity, it states that an object that is at a distance twice the radius of the Earth will experience a gravitation pull that is 1/4 the pull at the surface of the Earth, and an object that is 3r from the Earth will feel a pull that is 1/9 the amount at the surface. So you can see that it drops off pretty fast, but technically it would never be zero, but get asymptotically close to zero. Thus the asteroid will "feel" the gravitational pull of Earth, but at the distance it is, the effect will be VERY small.
- This makes the strength of gravity on the "surface" of the sun (that is, the photosphere, the shiny part we see), 28 times stronger than the force of gravity on the surface of the Earth. Out here, at the distance we orbit the sun, the gravitational pull of the sun is only 0.0006 of the strength of the earth's gravity on the surface of the earth. But that's enough to pull the entire planet around in a big, nearly circular orbit, once per year. And the variation in the strength of the sun's gravitational pull from the part of the earth that faces towards the sun to the part that faces away is partly responsible for the tides of the ocean. The moon's gravity plays a somewhat larger role in the tides. Although it's weaker than the Sun's gravity here, it varies more from one side of the Earth to another.

Planets - Data Table

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
diameter (Earth=1)	0.382	0.949	1	0.532	11.209	9.44	4.007	3.883
diameter (km)	4,878	12,104	12,756	6,787	142,800	120,000	51,118	49,528
mass (Earth=1)	0.055	0.815	1	0.107	318	95	15	17
mean distance from Sun(AU)	0.39	0.72	1	1.52	5.20	9.54	19.18	30.06
orbital period (Earth years)	0.24	0.62	1	1.88	11.86	29.46	84.01	164.8
orbital eccentricity	0.2056	0.0068	0.0167	0.0934	0.0483	0.0560	0.0461	0.0097
mean orbital velocity(km/sec)	47.89	35.03	29.79	24.13	13.06	9.64	6.81	5.43
rotation period (in Earth days)	58.65	-243*	1	1.03	0.41	0.44	-0.72*	0.72
inclination of axis (degrees)	0.0	177.4	23.45	23.98	3.08	26.73	97.92	28.8
mean temperature at surface (C)	-180 to 430	465	-89 to 58	-82 to 0	-150	-170	-200	-210
gravity at equator (Earth=1)	0.38	0.9	1	0.38	2.64	0.93	0.89	1.12
escape velocity (km/sec)	4.25	10.36	11.18	5.02	59.54	35.49	21.29	23.71
mean density (water=1)	5.43	5.25	5.52	3.93	1.33	0.71	1.24	1.67
number of moons	0	0	1	2	63	62	27	13

What is the volume of Earth? (Asked by: Dallas student)

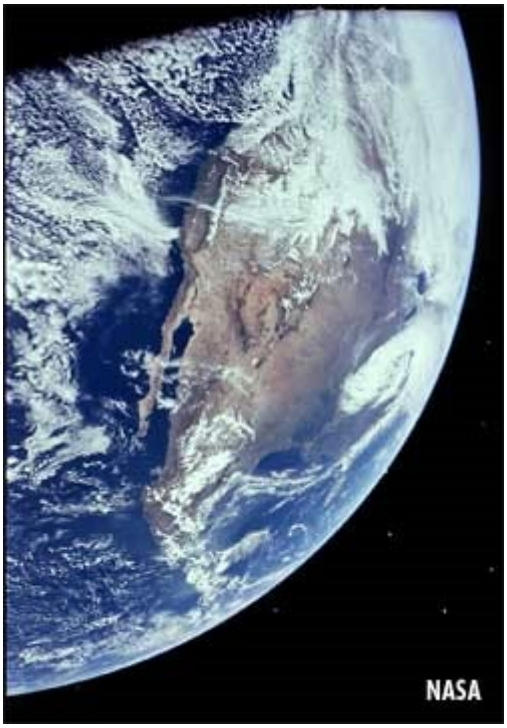
Answer

The earth is approximately a sphere (actually it is sphere slightly flattened at the poles). Its volume can be calculated if you know its radius. Use the equation for the volume of a sphere which is V = 4/3 π x Radius^3

The mean radius of the earth is approximately 6.4 million meters (exact = 6.37 x 10^6 m). Its volume is then:

(4/3) x 3.14 x 6400000^3 m^3

This comes to 1,097,509,500,000,000,000,000 cubic meters. Needless to say, this is very large! Inside of one cubic meter you could fit seven or eight high school students. I know, I teach high school and I have fit eight students in a cubic meter! So, this would be 137,188,690,000,000,000,000 students. Is your high school this big?



	Mercury	Venus	Earth	Msrs	Jupiter	Saturn	Uranus	Neptune	Pluto
Mean dist. From sun (AU)	0.39	0.72	1.00	1.52	5.20	9.53	19.18	30.08	39.34
Inclination of Orbit (deg)	7.00	3.40	0.00	1.86	1.31	2.49	0.66	1.77	17.14
Orbital Eccentrically	0.206	0.007	0.017	0.093	0.048	0.056	0.046	0.010	0.248
Orbital speed(KM/S)	47.89	35.00	29.79	24.13	13.06	9.64	6.81	5.43	4.74
Diameter (KM)	4.878	12.103	12.755	6.790	142.796	120.660	51.118	49.528	2.284
Mass (Earth=1)	0.06	0.81	1.00	0.11	318	95	14.5	17.14	0.002
Density(Water=1)	5.43	5.24	5.52	3.95	1.33	0.69	1.29	1.64	2.03
Length of Days	58.7 dys	243 dys	23 hrs 56 min	24hrs37min	9hrs 56min	10hrs40min	17hrs14 min	16hrs 6 min	6 dys 9 hrs
Length of year	87.97 dys	224.7dys	365.26dys	686.98 dys	11.86 yrs	29.46 yrs	84.07yrs	164.8 yrs	248.6 yrs
Number of month	0	0	1	2	16 or MORE	18 or MORE	15 or more	8 or more	1
Temperature range(oC)	-180 to 430	465	-80 to 60	-122 to 25	-150(cluds)	-170(cluds)	-210(cluds)	-110(cluds)	-220
Atmosphere	Almost None	CO2	Nitrozen Oxygeon	CO2	Hydrogeon Heliun	Hydrogen Heliun	Hydrogen Heliun Methane	Hydrogen Heliun Methane	None(7)

Above :

The table above provides a quick way to took up the key facts and statistics of the nine planets of the Solar System. Values given for the inclination and eccentrically are the values for the planet's orbit, multiply the mean distance from the sun value listed in the table by approximately 149,597,900 kilometers (93,000,000 miles). In order to compute the mass of a planet, multiply the value listed in the t able by approximately 5.9742x 10/24 kilograms. The numbers given for length of a day and length of a year are expressed in : Earth" time.

SOLAR SYSTEM-PLANETS-DETAILS

< Back	Mercury(Roman God)(Budha)(Smallest planet)	Venus(Goddess of beauty)(Shukra)	Earth(Bhumi)	Mars(Roman God of War)(Angaraka/Mangala)	Jupiter(Chief God of Roman)(Brhaspathi/Guru)Largest planet)	Saturn(Shani)(Roman God of Agri&Harvest)	Uranus(Varu Greeck God Heaven)
Distance from the Sun (km) (Semimajor axis of orbit)	57,909,227	108,209,475	149,598,262	227,943,824	778,340,821	1,426,666,422	2,870,658,18
Mean Equatorial Radius (km)	2,439.7 (0.3829 x Earth)	6,051.8 (0.9499 x Earth)	6,371.00 ()	3,389.5 (0.5320 x Earth)	69,911 (10.9733 x Earth)	58,232 (9.1402 x Earth)	25,362 (3.9809 x Ear
Volume (km^3)	6.08272×10^{10} (0.056 x Earth's)	9.28415×10^{11} (0.857 x Earth's)	1.0832×10^{12} ()	1.63116×10^{11} (0.151 x Earth)	1.43128×10^{15} (1321.337 x Earth)	8.2713×10^{14} (763.594 x Earth)	6.83344 x 10 (63.085 x Ear
Mass (kg)	3.3010×10^{23}	4.8673×10^{24}	5.9722×10^{24}	6.4169×10^{23}	1.8981×10^{27}	5.6832×10^{26}	8.6810×10^{2}
Density (g/cm^3)	5.427	5.243	5.513	3.934	1.326	0.687	1.270
Equatorial Surface Gravity (m/s^2)	3.7	8.87	9.80665	3.71	24.79	10.4*	8.87
Escape Velocity (km/h)	15,300	37,296	40,284	18,108	216,720	129,924	76,968
Rotation Period (Earth days)	58.646	-243.018	0.99726968	1.026	0.41354	0.444	-0.718
Orbit Period (Earth years)	0.2408467	0.61519726	1.0000174	1.8808476	11.862615	29.447498	84.016846
Mean Orbit Velocity (km/h)	170,503	126,074	107,218	86,677	47,002	34,701	24,477
Orbit Eccentricity	0.20563593	0.00677672	0.01671123	0.0933941	0.04838624	0.05386179	0.0472574
Orbit Inclination to	7.0°	3.39°	0.00005°	1.85°	1.304°	2.49°	0.77°

SOLAR SYSTEM-PLANETS-DETAILS

Ecliptic							
Inclination of Equator to Orbit	0°	177.3° (retrograde rotation)	23.439 3°	25.2	3.1°	26.7°	97.8° (retrogra rotation)
Minimum/Maximum Surface Temperature	-173/427	462	-88/58 (min/max)	-87 to -5			
Major Atmospheric Constituents		Carbon Dioxide, Nitrogen	Nitrogen, Oxygen	Carbon Dioxide, Nitrogen, Argon	Hydrogen, Helium	Hydrogen, Helium	Hydrogen, Heli Methane
Moons	None	None	1 moon	2 moons	62 moons	62 moons	27 moons
Rings	No	No	No				

Primary Source: Cox, Arthur, ed., Allen
Secondary Source: JPL Solar System

Last Updated: 11 May 2011

గ్రహములు: వాటి వివరాలు

గ్రహం పేరు	వ్యాసం (కి.మీలలో)	దినం (భూమి రోజులు,గంటలు)	సంవత్సరం (భూ/సంవత్సరం)	సూర్యుడు నుండి దూరం కి.మీ.
బుధుడు	4880	58.6 రోజులు	88 / రోజులు	57900000
శుక్రుడు	12109	243 రోజులు	224 రోజులు	108230000
భూమి	12835	24 గంటలు	365 రోజులు	149590000
కుజుడు	6780	24.6 గంటలు	687 రోజులు	227720000
గురుడు	142,725	9.8 గంటలు	11.6 సంవత్సరాలు	778120000
శని	120050	10.2 గంటలు	29.4 సంవత్సరాలు	1428300000
యురేనస్	51705	17.30 గంటలు	84 సంవత్సరాలు	2872700000
నెప్ట్యూన్	49520	15.8 గంటలు	11 సంవత్సరాలు	4498100000
ప్లూటో	2215	6.3 రోజులు	247.8 సంవత్సరాలు	5914300000

భూమి సడక వేగం — 67000 మైళ్ళు / గంటకు 18.5 మైళ్ళు / సెకనుకు
భూమిలో చంద్రుడు — 1/81.5 బరువు
సూర్యుని బరువు — 190000000 (పందొమ్మిది కోట్లు) ఈ సంఖ్య క్రింద ఇంకా 20 సున్నాలు పెడితే వచ్చే సంఖ్య టన్నులు

భూమి బరువు — 5870 ప్రక్కన 19 సున్నాలు పెడితే వచ్చే సంఖ్య టన్నులు
భూమి ఆకర్షణ శక్తి భూమి నుండి ~~9,25,000 కి.మీ.~~ పరకు విస్తరించి ఉంటుంది.