

Living on the Moon



Reasons for living on the moon

- If the human race on earth ever became extinct life could exist on the moon.
- To scientifically learn more about the moon.
- Perfect base for telescopes to look deeper into space.
- Also the moon could be base to explore the rest of space from.
- Tourism and trips to the moon.

Pros and Cons of living on the Moon

To live on the moon you have to have particular resources to survive.

	Cons	Pros
Resources	The resources aren't readily available on the moon and life would have to be adapted or shipped in.	The moons surface is rich in resources such as solar power, oxygen and metals.
Oxygen	We need oxygen to breathe. The lunar atmosphere is mainly helium, neon, argon and hydrogen.	Lunar soil is 42% oxygen. Using heat and electricity oxygen can be made by robots.
Water	Water doesn't exist on the moon.	Water is 2/3 hydrogen and 1/3 oxygen, so regular supply ships filled with liquid hydrogen could be mixed with the oxygen found on the moon. There are ice forms that could be drilled and used.
Food	Only limited food can be transported to the Moon. Lunar soil is full of metals and other compounds harmful to plants.	Plants can be grown with a mixture of lunar soil and human waste, all that would be needed is seeds and earthworms.
Solar Energy	The moon has 354 hours of lunar night.	Lunar soil has almost all the materials needed to build solar panels to provide energy.
Shelter	Very hostile environment and protection is needed from space radiation. Bombarded with lots of micro-meteorites.	Inflatable shelters can be brought from earth. Lunar soil could be used to make bricks and make igloos around the the shelters. This would protect from radiation and meteorites.
Gravity	There is less gravity on the moon than on earth. About 1/6th less because the moon is smaller.	Learning to walk differently and adapting to the different gravitational pull.

Conditions on the Moon - Facts

- Temperature - the lowest temperature on the moons surface is -232 degrees Celsius and the highest is 127 degrees Celsius.
- Temperature during a lunar eclipse - the surface temperature can plunge about 300 degrees celsius in less than 90 minutes.
- Atmosphere - As there is hardly any atmosphere on the moon (vacuum) it is unprotected from cosmic rays, meteorites and solar winds.
- Sound - because of the lack of atmosphere means there is no sound and the sky always looks black.
- Light - daytime lasts for 13.5 days followed by 13.5 nights of darkness.
- Soil - is a mixture of fine dust and debris from meteorites called regolith.
- Surface - the surface is covered in dead volcanoes, impact craters and lava flows.
- Weather - the moon has no magnetic field so has solar winds caused by the sun.
- Moon sand - caused by solar winds breaking up rocks into fine dust. The dust is so fine it gets onto equipment and spacesuits, which if whipped off will only go deeper into the fabric.
- Craters - ice crystals are found in shadowed craters at the pole.

Travelling to the moon

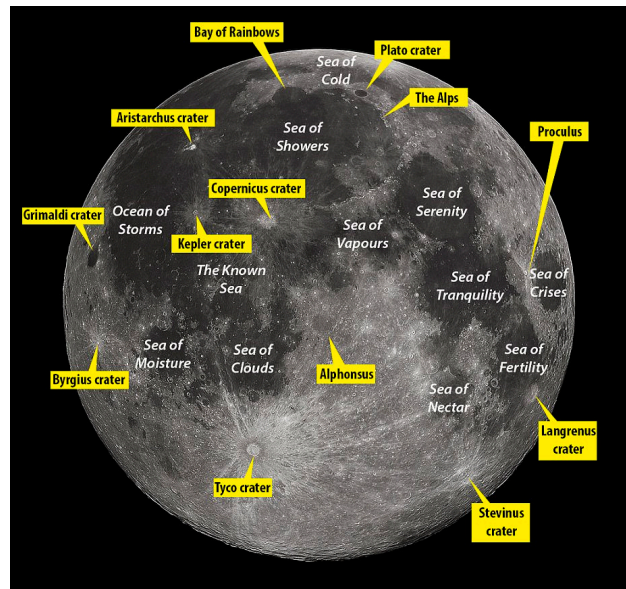
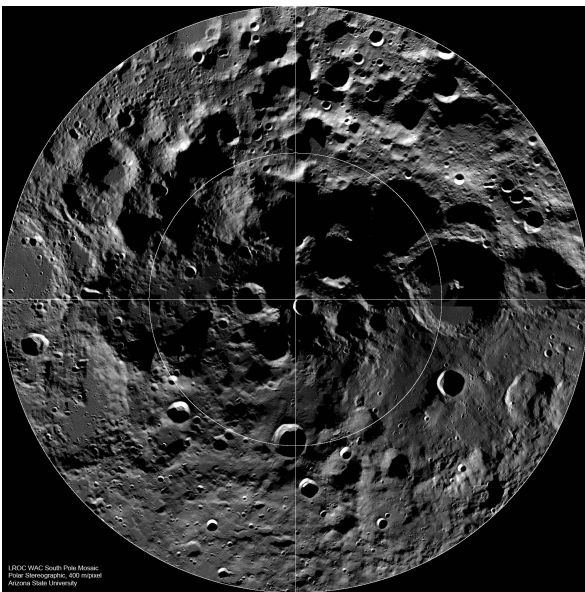
The moon is 384400km from earth and it takes three days. You need to travel 40,000 km per hour to leave the earth's atmosphere and not be pulled back by our gravity (40 times faster than a jumbo jet). A lot of fuel is burned taking off and used in an expedition, 90% of the a rocket is fuel. For return journey you would need to refuel.

You can't fly directly to the moon because both the earth and moon are moving. The moon orbiting around the earth and the earth around the sun. Also a rocket is battling the gravitational pull of the sun and earth so using the earth's rotation a rocket can slingshot its self around the earth and with perfect timing launch towards the moon.



Where to settle on the moon

The best place to land and settle on the moon is the lunar south pole. The mountain peaks at the south pole spend most time in light which is need for solar power. Also there is many craters that have permanent shade and have ice which would be needed for a water supply.



Personality traits needed to survive on the moon

- Calm
- Used to isolation and being alone
- Adventurous
- Independent

Skills needed by people to live on the moon

- Intelligent and knowledgeable about space
- Practical individuals and engineers to build and fix equipment
- Medic or a doctor to be able to look after the crew
- Experienced pilots
- Scientists to collect data

The difficulties a person will encounter

Mentally

Living on the moon will be a very isolating, you won't be seeing love ones for a long time and you will be working with people that you don't know very well. As you will be wearing suits a lot of the time and will be in small areas you will start to feel claustrophobic. You will have to eat packet food which will be hard to get used to and will not fill you up a lot.

Physically

The low gravity is one of the major problems because it decreases the muscles and bone mass. Another problem is that because there's no weight load the back and leg muscles begin to weaken and shrink.