**Mercury information**

Mercury is the closest planets to the sun and is one of the few bodies in the solar system to have a magnetic field (the others being Earth and Jupiter’s moon, Ganymede) which protects it from solar radiation which can be deadly to humans. However, the magnetic field is only 1% of that of Earth.

**What are the problems with Mercury?**

Because Mercury is so close to the sun, it takes a large amount of energy to both land on and leave from Mercury because the gravitational pull of the sun is so strong. Also, the planet turns very slowly and what is one day on Earth is almost 176 days on Mercury. The result is a planet that has temperatures of up to 427 degrees Celsius during the day, and a lack of atmosphere allows the heat to escape during the night, dropping the temperature down to -179 degrees Celsius. Any human settlement would most likely be places near the poles where the temperature tends to be around 0 degrees Celsius.

**Are there any redeeming qualities about Mercury?**

Yes, Mercury is mineral rich and would be an excellent planet to harvest solar energy. A solar plant could harvest 6.5 times the amount of energy that can be harvested on the Earth. There may even be places near the poles on Mercury where the sun is always in the sky where solar plants can work all day to get energy.

The surface of Mercury has many valuable resources, including helium-3 (which may be an important source to make clean nuclear fusion energy, though its existence on Mercury has not been proven), iron, magnesium silicates, and it is thought that it has the highest concentration of valuable minerals than of anywhere else in the solar system.

Rather than making Mercury a place of humans to live, it would make more sense to use Mercury as a mining planet.

**Venus information**

For a long time, people have talked about the possibility of colonizing Venus, but in recent years, after the discovery of the hostile atmosphere, people have stopped looking at Venus as a potential place to colonize and have instead turned their eyes towards other bodies.

**What drew people towards Venus?**

Venus is only slightly smaller than Earth and is the closest planet to Earth. A similar size means that humans living on Venus would not have much trouble returning to Earth as their bodies won’t have started to deteriorate due to a lighter gravitational pull. The surface gravity is very close to that of Earth: 0.904 g.

Venus is also easier to get to than any other planet. This is for several reasons; mainly because it’s closer (our probes took slightly over 5 months to reach Venus) and because the launch window is every 584 days (compared to 780 days for Mars.)

**If it’s so easy to get to, why did people start looking elsewhere?**

The surface of Venus is very hot and dangerous. The thick atmosphere is made up of about 97% carbon-dioxide and traps the heat of the sun on the planet’s surface. As a result, the surface temperature of Venus can reach up to about 500 degrees Celsius and the extreme temperatures and pressure have destroyed most probes that have tried to land on the surface after only a few hours.

In addition to the heat, settlers would have to deal with high wind speeds. The top layer of clouds travel at a speed of 360 kilometers per hour. However, near the surface, the wind only moves at a few kilometers per hour. Venus is also covered in volcanic activity.

**Will we ever be able to live on Venus?**

Not with our current technology, but one day we might be able to.

Methods of making Venus inhabitable include terraforming, cooling the surface by placing solar shades between the planet and the sun, and colonizing the atmosphere at around 50km above the surface because the pressure and temperature this high above the surface are very Earth-like.

**Earth information**

Earth is the only known place in the universe that holds life. It is currently home for ~8.7 million known species.

The length of a day on Earth is about 23.934 hours while a year is approximately 365.26 days.

The force of gravity is 9.8m/s^2

**So what’s the problem with Earth?**

With an ever-growing population, it is vital that humans find more areas for humans to live and where we can grow food for our large (over 7 billion people) population. There are non-colonized places on Earth where it is possible to fit population overflow, such as in floating cities on the ocean, but that is not a permanent solution. After the oceans are covered, where will we go?

There are other problems as well, climate change being the biggest. Some problems that will come with climate change include higher temperatures; changing landscapes; extinction of wildlife; rising sea levels destroy costal cities; increased risks of drought, fire, and floods; stronger storms creating more damage from storms, more heat related illness and disease, and economic losses.

With 100 million people living within three feet from sea level, the melting of artic ice and a rising sea level would displace millions of people. By 2100, sea levels are expected to rise between 8 inches and 6.6 feet. If floating cities are the solution, engineers will have to take into account having extra room for not only an exponentially growing population, but also a large number of people whose homes were flooded.

**But isn’t space travel incredibly impractical?**

Yes! But unless we start pushing out to space soon, we will have even more problems by the time we need to leave or face extinction.

**Mars information**

Mars is most likely the first planet other than Earth in which humans will inhabit. Already, we have two rovers on the surface of Mars along with three orbiters surveying the planet from orbit.

In addition to hosting human life at some point in the future, Mars is a likely candidate in our solar system where extra-terrestrial life may be found.

**What makes Mars a good planet to colonize?**

Mars is similar to Earth in a lot of ways! These include:

* The Martian day is only about 38 minutes longer than a day on Earth
* Mars has an axil tilt of 26.19 degrees (compared to 23.44 degrees on Earth). This means that Mars has seasons similar to seasons on Earth
* The Martian year is 1.88 Earth years, so almost twice as long
* Mars has a thin atmosphere that helps to protect it from solar and cosmic radiation
* NASA has confirmed the presence of water on Mars

**Sounds good! What are the problems?**

There are a lot of problems that would make the colonization of Mars difficult.

* The surface gravity is 38% of the Earth’s (making a 150lb person on Earth weigh 56.5lbs on Mars) however, it is not yet known if the pull of gravity will be strong enough to prevent health problems that arise with weightlessness.
* The surface of Mars is significantly colder than on Earth. The mean temperature is -63 degrees Celsius.
* The only known water on Mars is frozen
* Humans cannot survive without a pressure suit
* The atmosphere cannot be breathed by humans as it is mostly made up of carbon dioxide

**Uranus information**

Uranus is snot a possible place for humans to colonize for a variety of reasons:

First off, Uranus is a gas giant. Any form of solid ground to stand on would be so near the core that the pressure would crush any person trying to go there.

If people could somehow survive the pressure, there would be other factors trying to kill anyone trying to inhabit Uranus. The wind speed is up to 250m/s, or 560mph, meaning that any structure would be blown away.

The cold is another issue, as Uranus has the coldest atmosphere in the solar system: the minimum temperature for Uranus is -224 degrees Celsius.

Its atmosphere is made up of hydrogen, helium, ammonia, methane, and water in the form of ice.

Uranus would be deadly for anyone trying to colonize it. Unless technology improves in such as way that we are able to withstand extreme pressure, cold, and wind, we will not be able to live on Uranus.

**References**

**Making the site work**

http://www.w3schools.com/tags/att\_img\_usemap.asp

http://www.w3schools.com/tags/att\_area\_coords.asp

**Information**

Pictures:

<http://georgesrestaurant.com/wp-content/uploads/2010/07/Chalkboard.jpg>

<http://earthfedmovement.webs.com/EARTH-NASA-5.gif>

<http://quest.nasa.gov/mars/background/images/mars.gif>

<http://teachingphysics.files.wordpress.com/2010/04/solar-system.jpg>

<http://www.librarising.com/astrology/misc/images/uranus.jpg>

Moons & Asteroids

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=SolarSys&Display=Moons>

<http://www.planetaryresources.com/2012/10/asteroid-miners-wanted-apply-today/>

General:

<http://www.exploratorium.edu/ronh/weight/>

<http://en.wikipedia.org/wiki/Solar_System>

<http://en.wikipedia.org/wiki/Gerard_K._O'Neill>

<http://en.wikipedia.org/wiki/The_High_Frontier:_Human_Colonies_in_Space>

<http://www.giantworlds.org/meetthegiants/jupiter.php>

<http://wiki.answers.com/Q/What_happens_if_you_stand_on_a_gas_giant>

Mercury:

<http://www.shatters.net/~t00fri/images/mercur_trucolor.jpg>

<http://en.wikipedia.org/wiki/Mercury_(planet)>

<http://nineplanets.org/mercury.html>

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Mercury&Display=OverviewLong>

<http://en.wikipedia.org/wiki/Colonization_of_Mercury>

<http://blogcritics.org/scitech/article/colonizing-mercury-could-it-be-done/>

Venus:

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Venus&Display=OverviewLong>

<http://en.wikipedia.org/wiki/Venus>

<http://nineplanets.org/venus.html>

<http://en.wikipedia.org/wiki/Colonization_of_Venus> <http://farm7.static.flickr.com/6078/6054844061_2575b84562.jpg>

Earth:

<http://nineplanets.org/earth.html>

<http://www.nytimes.com/2011/08/30/science/30species.html?_r=0>

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Earth>

<http://www.livescience.com/20085-prepare-rising-sea-levels-predictions-needed.html>

<http://www.skepticalscience.com/sea-level-rise-predictions.htm>

<http://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/threats-impacts/rising-seas.xml>

<http://www.livescience.com/20085-prepare-rising-sea-levels-predictions-needed.html>

<http://climate.nasa.gov/>

Mars:

<http://en.wikipedia.org/wiki/Colonization_of_Mars>

<http://en.wikipedia.org/wiki/Exploration_of_Mars>

<http://en.wikipedia.org/wiki/Colonization_of_Mars>

<http://www.redcolony.com/>

<http://www.tgdaily.com/space-features/65417-how-to-colonize-mars-by-2023>

<http://www.smartplanet.com/blog/smart-takes/startup-aims-to-colonize-mars-by-2023/26964>

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Mars&Display=Facts&System=Metric>

Uranus:

<http://solarsystem.nasa.gov/planets/profile.cfm?Object=Uranus&Display=Facts>

<http://nineplanets.org/uranus.html>

<http://www.kidsastronomy.com/uranus.htm>

<http://en.wikipedia.org/wiki/Uranus>