



# Our Earth

Guardians of the Earth



# The Planet

The Earth is the third planet from the sun, and the only planet known to sustain life. According to scientists it formed approximately 4.5 billion years ago. It is the most dense and 5th largest planet in our solar system. Unlike the other planets, earth was not named after a Roman god/goddess or deity.

It takes Earth 365.26 days to orbit the sun which gives us a year on the calendar and 23.934 hours to complete its rotation, which equates to one day. Earth is comprised of 4 main components, air, water, land and life. Each element is affected by the Earth's axis of rotation, which results in the 4 seasons. Northern and southern hemispheres will point toward or away from the sun depending on the season. This is determined by the Earth's position in orbit.



# Earth's Atmosphere

The Earth's atmosphere is comprised of 78% nitrogen, 21% oxygen as well as traces of argon, carbon dioxide and other gases. It is the only planet with free oxygen thus harboring life. The further away from the Earth's surface one moves the thinner the air becomes. Different weather patterns are a result of changes in the troposphere. As the sun heats the air in the troposphere, which is comprised of moving air particles we experience different weather conditions.

Above the troposphere resides the stratosphere, 48 km above the earth's surface. Here we find the ozone layer, which protects us from the ultraviolet rays of the sun. As we learned in previous meetings, chlorofluorocarbons (CFCs) deplete the ozone layer when released into the atmosphere. Fortunately the ban of CFCs has resulted in the recovery of the ozone layer. NASA found proof with an MLS ozone measurement indicating 20% recovery with further repair as time progresses. However, it's forecasted to take at least 50 years.



# Landforms

The earth is abundant in different landforms, each unique and important in its diverse ecosystem. Landforms are hallmark features of the earth's terrain. Some major landforms include valleys, plateaus, mountains, plains, hills, loess, and glaciers. Over time landforms evolve. Tectonic plates can cause mountains and hills to rise up. Valleys and canyons are created by water and wind. Thus, our planet is ever changing. The Mariana Trench in the South Pacific ocean lies under the water and is the oldest known landform. Oceans which comprise 70% of the Earth's surface are the largest landform. These natural changes in land formation are a part and parcel of the cycle of nature.



# Detriments of Neglecting Earth's Value

Mother Earth is our sustenance. Offering water, food, air and all the basics of survival for all walks of life, she is brimming with valuable resources. However, too often people take advantage of the beauty and wonders of nature. Wasting resources, overconsumption and bombarding landfills with refuse that could have been reused, or recycled are some of the ways the earth falls victim to the wrath of materialism and a lack of care and awareness.

Landfills release methane into the atmosphere, not to mention the obvious destruction of the earth's surface, as solely a means of junk storage. Habitats are voraciously eradicated as landfills become ensconced in more and more parts of the earth. Thus, it is vital that we be stewards of the earth to ensure that all that can be preserved is.



# What Can We Do

Reduce Reuse Recycle, the 3 Rs that vouch for the earth and exhort us to preserve it..

Reduce - By simply using less, eliminating single use products, ie Timmies, Starbucks cups in place of reusable ones, we put a cap on how much waste goes into landfills.

Reuse-Instead of throwing away items that can serve the same or another purpose multiple times, reuse them.

Recycle-Many facilities exist and more are being implemented to take an item that would be otherwise trash and turning it into something with another purpose. It is key that one takes advantage of this option and even more so follows proper protocol to ensure that the process is indeed effective.



# Recycling 101

There is much controversy about how to recycle and what goes where. It can seem lucrative until one understands the protocol behind it.

Some facilities will specify that items need to be sorted, plastic, paper, metal, glass all in their own receptacle. Others will accept mixed materials all in one bin. What's not known to many is that items should be clean and devoid of debris or remains. The reason being is that they are put through machines that melt, grind, compress and process them to turn them into something new. Most recycling plants do not have the time or man power to clean items as it is a mass production given the amount of recyclables to be processed. To add to it, it's just due diligence for the people contributing to this endeavour. Who should have to deal with moldy food or residues and liquid spilling out of containers?



# Environmental Endeavours In Our Midst

The City of Calgary offers an excellent recycling program. In fact, it has become even better than that of B.C., as they do not have plastic bag recycling for households. Calgary does offer that option. Additionally, Calgary recycling does not enforce sorting. However, in these provinces and others, items must be clean and free of debris. 311 offers much for information for recycling in Calgary. The links below offer more insight

<http://www.calgary.ca/UEP/WRS/Pages/Recycling-information/Residential-services/Blue-cart-recycling/What-Cant-Be-Recycled.aspx>

<http://www.calgary.ca/UEP/WRS/Pages/Recycling-information/Residential-services/Blue-cart-recycling/What-Can-You-Recycle.aspx>

Another exceptional endeavour I stumbled upon through work is Ecowaste. They take old asphalt shingles from old roofs and grind them up to use for new roads in our city, thus preserving resources needed for new road material, and eliminating the amount of waste thrown into the landfill.