CHAPTER 1

What is the environment (and why should we care about it)?

What is the environment?

The environment is all of the physical surroundings that are around you on Earth. This includes living as well as non-living objects. While the living entities are human beings, animals and plants, the non-living are the atmosphere, the hydrosphere and the lithosphere. Let's take a closer look at what these terms mean.

Atmosphere is the air around us. Air is a mixture of some gases, water vapour and dust particles. The gases in air are mainly nitrogen, oxygen, small amounts of carbon dioxide and some other gases. Hydrosphere means all water bodies – oceans, seas, rivers, lakes, ponds, etc. Lithosphere is the outer layer of Earth, including rocks and soil on our planet's surface, where all living beings live and die.

Everything in nature is a part of the environment and everything that is manmade also comes from the environment. All these various parts of the environment depend on each other for survival. For example, as humans we cannot live without the water bodies providing us with water, or the oxygen from the atmosphere which we breathe, or the soil where we grow our crops. Similarly, plants need animals to help them pollinate, spread their seeds, and reproduce. Environmental effects such as climate and weather guide our way of living.

Here are some other ways in which the environment keeps us alive:

- All raw materials for everything that we use (our homes, cars, roads, medicines, phones, computers, even pencils) come from the Earth.
- The environment is the source of all energy that we need for electricity, cars and other vehicles, trains and aeroplanes, etc.
- We get warmth from the sun.
- Trees and oceans help keep our air clean. They give out oxygen and take in carbon dioxide from the atmosphere. Too much carbon dioxide in the air harms the entire planet.
- Trees are essential to the water cycle. As much as 75 per cent of the world's water comes from forests. They also prevent soil erosion and flooding.
- Animals provide us with food and raw materials for things like woollen clothes, and are also our best friends!

Without taking care of the environment, we harm not only ourselves but also all other living beings that depend on it for survival. Our environment is what keeps us healthy and alive and, in turn, we need to make sure it is healthy and alive as well.

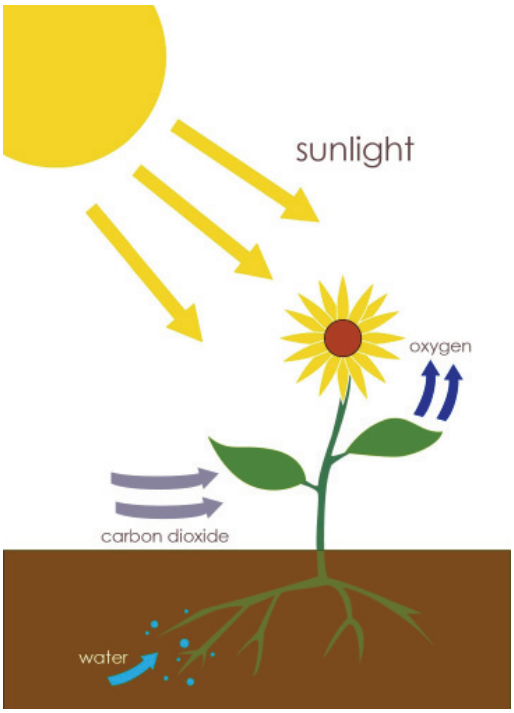
If the environment gets polluted and dirty, it directly affects us, makes us less healthy, and negatively affects the beautiful plants and animals around us which can lead to their death as well. For human beings, deadly diseases like asthma, cancer, TB, cholera and dengue are brought about by unhealthy environmental factors – contaminated water and air pollution are examples that easily explain this. These diseases kill millions of people every year.

The environment is not just for us, it is home for all animals and plants too. Without them, human beings won't survive.

Trees and plants provide oxygen for us to breathe; they prevent soil erosion and thereby allow us to grow our food; and so on. They in turn depend on animals for their reproduction and fertilisation. As a matter of fact, both animals and plants need each other. When too many species die out too quickly, other species suffer.

Animals provide us with food and other necessary raw materials; they control pests; and they are the source of many of our medicines (as are plants). Biodiversity is essential for a healthy and functional ecosystem that maintains the environment and the balance of nature. Equally important is the fact that we owe our future generations a well-preserved and green planet, so they are able to enjoy this beautiful planet just as we did.

What have become the most urgent issues in the past few decades are global warming and climate change. If our planet continues to become warmer at the current rate, it will result in numerous disasters and extinction of many species (that is, the entire species gets wiped out completely). Scientists worry that if global warming continues, nature may not be able to set things right ever. It may spell doom for the entire planet and its inhabitants. By protecting the environment, we can ensure that life carries on as usual and for millions of years to come.



DID YOU KNOW?

Every year, trees store around 2.8 billion tonnes of carbon.

DID YOU KNOW?

There are more than 130 million dengue infections in India every year.

Other key definitions

You must have come across several terms related to the environment. Let's understand the meaning of the important ones.

Ecosystem: The living and non-living parts that interact with each other make up an ecosystem. An environment can be made up of several ecosystems. Think of a stream with fishes, turtles, other sea animals, plants, algae, water – all of these interact with each other and form their own ecosystem while being a part of the whole environment. If any part of an ecosystem breaks down, it is unlikely to survive. For example, if we spray a poisonous pesticide on plants to prevent bugs from eating them, then lizards may accidentally ingest that poison when they eat the plants. This may result in cats being poisoned too, since they catch and eat lizards. With no cats around, the rat population could explode – and rats carry diseases that are extremely dangerous for humans.

Biodiversity: It is the variety of plants and animals found on Earth and comes from the words 'biological diversity'. Our Earth supports an incredible range of biodiversity—from microorganisms to the ocean's great blue whale—with plants and animals of all shapes and sizes. India is a biodiversity hotspot.

Biodiversity can only be used to describe a particular place or region or an ecosystem. For example, forests are usually known for their biodiversity. Biodiversity is vital for supporting all life on Earth. It provides all of our food and many industrial products and medicines. It ensures clean air, water and fertile soils, prevents soil erosion, and helps in pest and disease control. It also prevents any one species from dominating and throwing the balance of nature out of order.

Pollution: Pollution is anything that makes our planet dirty and contaminated. This can occur through waste, chemicals and other harmful substances. Pollution harms the environment and all living and non-living entities. Many times it can lead to diseases and even death. There are three main forms of pollution: air, water and land.

Air pollution: This occurs when smoke, dust particles and poisonous gases (like carbon monoxide, nitrogen dioxide and sulphur dioxide) are released into the atmosphere by cars, vehicles, factories, power and heat generation, and open burning and indoor burning of firewood, among other things. It is extremely harmful to all living beings and results in numerous respiratory diseases and breathing difficulties. The carbon gases that are released are mainly responsible for global warming and climate change, which will be defined later.

Water pollution: This occurs when waste, garbage, plastics, chemicals and other pollutants are released into water bodies. A lot of human-generated waste is thrown into the seas and oceans, contaminating the water, killing sea life, and making it difficult for the oceans to act as carbon sinks (that is, absorbing carbon from the atmosphere). All of these have a direct negative effect on humans.

DID YOU KNOW?

At least 40 per cent of the world's economy and 80 per cent of the needs of the poor are derived from biological resources.

DID YOU KNOW?

More than 8 million tons of plastic are dumped in our oceans every year. Nearly 5,000 people die every day as a result of drinking unclean water.

Land pollution: Land pollution is anything that harms or contaminates the land. This happens because of various reasons like dumping of garbage, mining, factories, using pesticides, and even farming. Many of the things that we use every day come in packages – food, school supplies and electronics, for example. These packages are mostly made up of plastics and most of them end up in large dumps called landfills, which are built into the ground. Landfills make land unhealthy for animals and people, and completely damage the soil.

The things that are made from organic materials will eventually decay and become a part of the environment. This type of trash is called biodegradable and is one way to prevent land pollution.

Greenhouse effect: It is the warming of the surface of the Earth and the air above it. It is caused by gases in the air that trap heat from the sun. These gases are called greenhouse gases (GHG), the most common being water vapour, carbon dioxide and methane. Without these gases, heat would escape back into space and Earth would be too cold for life to exist. However, if this effect becomes stronger (as is happening currently), our planet will become warmer making it difficult for humans, plants and animals to survive.

Global warming: A direct result of increasing greenhouse effect is global warming, the gradual increase in global surface temperatures. Right now, too much carbon dioxide and other greenhouse gases in the air are making the greenhouse effect stronger, which is increasing the earth's temperature. Scientists have attributed human activity, especially industrialisation that produces a lot of greenhouse gases, for this effect. Even a small increase in the planet's average surface temperature can have a large impact on the environment and make it difficult for many species, including humans, to survive.

Climate change: Climate is defined as the average pattern of weather in a particular place for a long period of time (weather can change daily; can be sunny today, rainy tomorrow). Changes to the climate pattern are defined as climate change. However, the climate change that all of us have been hearing about is related to global warming. That is, the climate of our planet as a whole is changing for the worse. The 2007 Intergovernmental Panel on Climate Change (IPCC) Assessment Report confirms that the warming of the global climate is a verified fact and that it is very likely due to human activities (burning of fossil fuels, clearing of forests, agricultural practices, etc).

Fossil fuel and renewable energy: Fossil fuel is any fuel (such as coal, oil, or natural gas) formed in the earth from plant or animal remains. Currently, it is the source of most of our energy needs (electricity, factories, vehicles, aeroplanes, etc.). These are also called non-renewable energy because there is limited amount available for use, and one day it will all run out. Burning fossil fuel releases carbon in the air which increases the greenhouse effect.

Renewable energy is also called clean energy or green energy as it comes from sources (solar or sun, wind, water or hydropower) that do not give out carbon and other toxic products into the environment. These sources are also infinite, which means they will not get used up—the sun will continue to shine on us, the wind will blow, and rivers will run till the time the Earth exists. Renewable energy does not cause pollution. Other types of renewable energy are geothermal energy, which uses heat from inside the Earth, and biomass energy, which uses plant and animal waste (manure).

Although renewable sources of energy are better than non-renewable sources, we continue to use the latter because they are easier to obtain.

DID YOU KNOW?

Global temperatures are expected to increase by another 1.8°C -4°C this century, possibly warming by as much as 6.4 °C. Global greenhouse gas emissions have increased by 70 per cent between 1970 and 2004.

DID YOU KNOW?

A single large wind turbine, when used instead of burning coal, can prevent the emission of 5,000 tons of carbon dioxide each year.

Conservation: Conservation is protecting all things found in nature. This means that all natural resources that are part of the environment – water, land, air, minerals, forests, wildlife, plants, etc. – are preserved and cared for, so that they may last forever. Conservation is respecting nature's balance and not taking more than your fair share.

Sustainability: Sustainability or sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The basic idea is that we must act responsibly about the way we live and the products we consume so that the environment is preserved and billions of people on this planet are able to live and survive forever. If something is sustainable, it means that it can be used for a long time without damaging the planet.

Both sustainability and conservation are crucial for the planet's survival

Carbon footprint: It is the total greenhouse gases like carbon dioxide emitted due to a person's activities (this can be applied to an event, product, or organisation). These activities include everything that you do – consuming electricity, taking a flight or driving a car, eating meat, or even using plastic.

CHAPTER 2

Is our Earth dying?

By now, we all are familiar with terms like global warming, climate change, species extinction and biodiversity loss. All of these occurrences are bad news for the planet and for the very survival of the human species. What we don't know is how bad it is and what its effects are. In other words – is Earth dying?

Take for example pollution. The ill effects of pollution are multiple. It contaminates the entire environment and especially harms children and the elderly. Air pollution makes the atmosphere unsafe for breathing. In India, most of our cities and towns have air-pollution levels that far exceed the maximum limits for clean, breathable air. If you read the news about the Delhi smog in November 2016, you would know that

it lasted for 9 days! People had to stay indoors as the air quality was so bad that all schools were shut down during this time. Health issues included breathlessness, chest constriction, irritation in eyes, asthma and allergy. The long-term effects of breathing such air include lung diseases, cancer, heart diseases and respiratory infections. In fact, it is considered to be one of the biggest reasons for human death.

Similarly, water pollution causes diseases like typhoid, cholera, dysentery, jaundice and malaria. Pollution also kills animals and plants who, unlike us, cannot find treatment at a hospital on their own. Corals, fishes and marine mammals like whales and dolphins are slowly dying. The more worrying part is that entire species are getting wiped out because of all the toxins and garbage that we dispose in the oceans and seas. Crops and forests are also damaged due to pollution, and acid rain (which contains harmful acids) is caused by air pollution when fossil fuels are burned.

Through our activities, we are also affecting biodiversity, which is extremely important for maintaining the balance of nature so that no one thing can become too powerful—and therefore bad for everything else. The need for energy and raw materials has led to the destruction of natural habitats for many plants and animals species. By overkilling them (due to our food and energy needs or for sport) and introducing new species into a new place, we destroy biodiversity. Overpopulation is also a major reason why biodiversity is decreasing rapidly all over the world. More people means more land is needed for their houses, more energy sources need to be mined, more factories come up to produce goods for their use, and so on. All of this naturally means more destruction of plants and animals.

Global warming

More than anything else, it is global warming and climate change that has got everyone worried. Increasing global temperatures can result in massive changes for the entire planet, most of them being destructive and catastrophic.

Since 1880, the average global temperature on Earth has increased by about 0.8 °Celsius (1.4 °Fahrenheit). Two-thirds of the warming has occurred since 1975, at a rate of roughly 0.15 °C–0.20 °C per decade. All of this happened in the same period when we started burning fossil fuels for our energy needs. While these temperature rises may seem minor, fact is that even a tiny increase in temperature can result in huge changes for the environment.

Let's take a look at the effects of global warming:

Rising sea levels: Most of the world's population live in coastal areas. Even a small increase in sea level will mean many such areas will come under the sea, resulting in the deaths of millions of people (and animals) and evacuation of several millions. Sea-level rise is directly related to two factors: melting of glaciers (that are the sources of all water bodies), which is a direct result of rising temperatures (think of ice kept outside the fridge), and the expansion of water as the ocean gets warmer (a common scientific observation). Rising sea levels also means that saltwater from the sea can seep into freshwater sources, resulting in contamination of drinking water and causing issues in growing

DID YOU KNOW?

Scientists estimate that, at a minimum, anywhere between 1,000 and 10,000 species go extinct every year, mostly due to human-caused habitat destruction and climate change.

DID YOU KNOW?

According to the Global Footprint Network, the rate at which we are using the Earth's resources requires 1.6 planets to maintain our current lifestyles – it now takes the Earth one year and six months to regenerate the resources we use in a year. If we continue business as usual, by the 2030s – with current population and consumption trends – we will need the equivalent of two planets to support us. This is clearly unsustainable.

crops for our food. All of this may lead to severe food and water crisis for all, except the very rich.

Ocean acidification: The acidity of the earth's oceans is known to have increased as a result of more carbon dioxide being emitted due to human activities. Carbon dioxide being absorbed by the upper layer of the oceans is increasing by about two billion tons per year. This means that the capacity of the oceans to absorb carbon (which they have been doing since the time they existed) is decreasing every year. This, in turn, means more carbon dioxide in the atmosphere, thus increasing the Earth's temperature. Many species of sea animals and corals are gradually dying and this is proving to be disastrous for the ocean's ecosystem.

Changes in weather and natural disasters: Climate change is likely to bring about unpredictable and more extreme weather patterns to many places (too hot or too cold). Expect heavy rains with flooding and extremely hot summers with temperatures well above 50 °C. Natural disasters such as extremely strong hurricanes, storms and heavy rains will become more frequent. Droughts will also become more severe and will impact millions of people.

Spread in diseases: As temperatures soar across the globe, summers will becomes hotter and hotter, resulting in even more deaths due to deadly heat waves. In India, thousands of people die every year. Imagine a small increase in temperature—this will push the number to tens of thousands. Other diseases like malaria which are currently found in countries near the equator and tropics (like India and African countries) will soon spread to places like northern Europe in a warming planet. A hotter climate also means more waterborne diseases like typhoid, cholera and hepatitis.

Increase in poverty: One of the most dangerous impacts of climate change will be on agriculture, with the increasing heat, unpredictable weather conditions and rising sea levels disrupting the environment so much so that it will become harder to grow crops such as rice, wheat and potatoes, which all of us rely on. Even feeding livestock such as cows, goats and chickens – the sources of our milk, eggs and meat – will become difficult with food shortage.

With coastal areas under threat from rising sea levels, many people will be forced to move inland, away from these places, and this in turn will put more pressure on urban infrastructure and services. All of these factors will hit the poor the hardest as they will have little money or resources to deal with the resultant issues. Millions are expected to be driven to poverty if the effects of climate change are not curbed.

DID YOU KNOW?

Sea level has risen 6.7 inches in the last 100 years. In the last 10 years, it has risen twice as fast as in the previous 90 years!

DID YOU KNOW?

2016 has been the warmest year on human record. Also, of the 17 hottest years on record, 16 have occurred in this 21st century.

Species extinction: Scientists have observed that many species of fish and sea creatures like turtles, dolphins and whales are dying at an alarming rate. Coral reefs, which are the home of many living creatures such as planktons, are slowly dying due to the rising ocean temperatures. For example, around 20 per cent of the Great Barrier Reef, the world's largest coral system, is estimated to be dead due to global-warming effects. Polar animals – whose icy natural habitat is melting in the warmer temperatures – are at high risk and so are the orangutans, which live in the rainforests of Indonesia, as trees are cut down and more droughts cause more bushfires.

Aside from these, bear in mind that plants and animals live in harmony with their ecosystems and while they are adaptable to an extent, sudden and massive changes like warming temperatures can harm them immensely and even lead to an entire species being wiped out. One example is animals that hibernate in the winter, like marmots, chipmunks and bears. Due to global warming, these animals are waking up as much as a month early or not hibernating at all. This means that they starve when they are awake because they can't find enough food. They might wake up too early because they feel it to be warm enough for spring, but the plants haven't started growing yet, which means that they go hungry. If this keeps happening, they will soon start dying one by one.

Migration of animals is also happening on a large scale due to changing climate patterns, putting the existing food chain in danger – this may eventually make some species extinct.

Plants, on their part, respond to even minor changes in temperature. Those in the mountain and polar regions can become endangered as global warming makes the soil hotter and results in less snow cover, which normally keeps soil temperatures steady. Global warming also leads to higher occurrences of forest and bush fires, after which it is very difficult for plants to grow back. Many plants are not being able to reproduce, leading to gradual extinction. Same is true for underwater plants – they are struggling to adapt to warmer water. Extreme temperatures, a decrease in water availability, and changes to soil conditions are all factors that affect plants negatively. Of course, some plants will thrive in warmer conditions but overall, scientists have concluded that climate change is bad news for plants too.

So, here's coming back to the question – is our planet dying? No, not yet, but if we don't take urgent action, there's a good chance it might no longer be the Earth that we know and love. Also, while the Earth may still survive the rising temperatures, there's no guarantee that human beings will.

DID YOU KNOW?

Children contribute to only 10 per cent of the world's pollution but are prone to 40 per cent of global diseases.

DID YOU KNOW?

Out of the 59,507 species that are assessed so far, 19,265 species (25 per cent of mammals and 41 per cent of amphibians) are threatened with extinction.

CHAPTER 3

How does the law protect our environment?

You must be wondering by now if there laws to protect the environment. As a matter of fact, environment protection is enshrined in our Constitution itself and is mentioned in both the Directive Principles of State Policy as well as the Fundamental Rights. The Constitution states that it is the duty of the State to 'protect and improve the environment and to safeguard the forests and wildlife of the country', and it also imposes a duty on every citizen 'to protect and improve the natural environment including forests, lakes, rivers, and wildlife' (Article 48-A and 51-A [g]).

Since our Independence, numerous laws have been passed to protect the environment in general. These are in addition to specific legislations related to forest and wildlife, water and air. Some of the well-known ones are Environment (Protection) Act, Wildlife Protection Act, Forest (Conservation) Act, Water (Prevention and Control of Pollution) Cess Act, and Air (Prevention and Control of Pollution) Act. All of these are to prevent harm and damage to our environment. The highest court of the country, the Supreme Court, has declared that every citizen has the right to clean water and air and a healthy environment.

These are some of the key laws that every citizen should be aware of:

- Littering or throwing garbage at public places is prohibited and doing so will attract a fine of Rs 10,000 per default. Spitting in public is also banned by law.

- Hunting for wildlife is prohibited and so are poaching, illegal trade in body parts of wildlife, illegal possession of wildlife goods, entering a protected wildlife territory to hunt without permission, and taking wildlife goods outside the country without permission. Endangered species like tigers are protected by law and one cannot hunt them under any condition.

- Polluting the environment is an offence – actions like dumping of hazardous (toxic) waste and causing substantial damage to the environment by releasing pollutants and other toxic substances into land, air and water are punishable with fines or imprisonment, or both.

- Illegal felling and cutting of tress without taking permission from authorities is a crime. Occupying forest land illegally is also prohibited.

- Causing noise pollution through loud and continuous noise is also illegal. Prior permission from authorities is required if loudspeakers are to be used in public and this too is allowed only up to a certain time.

- Owning certain wild species like star-shelled tortoise as pets is strictly illegal. Elephants can only be owned by a forest department and some temples in the South.

- Coastal regulation zones prohibit activities like mining and preserves fragile ecosystems in coastal areas.

The Supreme Court has also laid down that the 'precautionary principle' and the 'polluter pays principle' are essential features of 'sustainable development' (recall our earlier definition of sustainable development). The 'precautionary principle' states that a lack of information does not justify the absence of measures to protect the environment. So, even if one is not sure if the action can harm the environment, one still needs to take precautions that this not happen. The 'polluter pays principle' requires that any harm to the environment be paid for by the polluter, not only to compensate the victims of pollution but also to bear the cost of restoring the damage done to the environment.

Apart from these, India is also party to several international environment treaties and agreements. Some of the important ones are:

- **Paris accord:** Signed in 2015, this agreement has been signed by almost all countries of the world and requires them to take suitable actions to limit the global temperature rise to below 2 °C above pre-industrial levels. It is the biggest attempt at a global level to limit climate-change effects.

- **UN Framework Convention on Climate Change:** This has laws around emissions of greenhouse gases.

- **Montreal Protocol on Substances that Deplete the Ozone Layer:** It aims at reducing consumption and production of ozone-depleting substances. These are substances that make the ozone layer in the atmosphere thinner, thereby increasing Earth's temperature.

- **Convention on International Trade in Endangered Species of Wild Fauna and Flora:** This controls international trade in endangered species of plants and animals.

- **Convention on Biological Diversity:** This treaty aims at biodiversity conservation and sustainable usage, habitat preservation, and protection of indigenous people's rights.

Right now, countries around the world are working to bring down carbon emissions and move towards clean or renewable energy. For instance, Germany is a world leader in solar capacity and has even been

able to meet as much of 78 per cent of a day's electricity demand from renewables! Uruguay is 95 per cent powered by renewable energy; Denmark aims to be 100 per cent fossil fuel-free by 2050; and in 2015, wind power produced the equivalent of 97 per cent of Scotland's household electricity needs. Both Norway and Iceland have been able to achieve close to 100 per cent renewable power through hydropower and geothermal heat, respectively.

India is the fourth-largest solar power country in the world. At the end of 2016, India had installed 11 gigawatts of solar capacity and 29 gigawatts of wind capacity; the 2022 target is to install 100 gigawatts of solar and 75 gigawatts of wind. In just a few years, India has installed nearly as much solar capacity as the three top US states—California, New Jersey and Massachusetts—combined. As per its commitments to the Paris accord, two of the country's major targets are to reduce energy-emissions intensity of GDP (which is, volume of carbon emissions per unit of the country's gross domestic product, or GDP) by 33–35 per cent from 2005 levels by the year 2030, and to increase the share of non-fossil fuel energy sources to 40 per cent by 2030. The country is on its way towards meeting its targets but there's still a long way to go.

To summarise, as per existing laws in the country, one shouldn't:

- Litter public places
- Throw garbage here and there
- Hunt animals
- Throw chemicals, toxic materials or garbage on land or water
- Release smoke and other poisonous gases in the air
- Cut trees and plants
- Make loud noises that disturb public peace
- Keep animals as pets unless allowed by the law

CHAPTER 4

The ordinary citizen's guide to saving the planet

With the growing awareness about environmental issues among the general public, the natural question to ask is about what an ordinary citizen can do to protect the environment and help in combating climate change. While it is true that issues of such magnitude require massive efforts on a global scale, each and every person can still contribute positively to such causes. If each one of us pledges to live a green, ecofriendly lifestyle, there's no doubt that the collective output will lead to a safer, greener planet.

Here are a few ways in which all of us can live relatively sustainable, ecofriendly lifestyles:

- **Say NO to plastics:** Plastics are bad for the environment as they pollute the land and the water. Plastics are not biodegradable, which means that the soil cannot absorb them or break them down—they just sit on the earth and accumulate, polluting the environment. Even when disposed, it can last for long periods of time in landfill sites. Worst is when plants and animals come into contact with them. They are unable to distinguish between plastic and their regular food and when they ingest them mistakenly, it remains inside their bodies and often results in their death. For example, floating plastic bags are often mistaken for jellyfish by marine animals who feed on them, such as sea turtles. Plastics are made using non-renewable resources and take huge amounts of energy to manufacture, transport and recycle. They are incredibly difficult to recycle and contribute to a widespread litter problem. There are much better options than plastics for our day-to-day use.

- **Reuse and recycle:** A cheap alternative to plastic is reusable bags made of cotton or jute. Other products that come in plastic like water bottles can be avoided by carrying your own water at all times. When ordering food from restaurants or doing a takeaway, avoid plastic cutlery like plastic spoons, plates and forks. Even when going to a coffee shop, simple acts like carrying your own cup can go a long way in reducing plastic use.

- **Reduce and recycle:** A lot of our garbage can be recycled if we take the time to separate that which is recyclable (like beverage cans, steel equipments, glass bottles, magazines and light paper, cardboard, etc.). It then becomes important to know what can be recycled. This is a fairly simple process and can be done by anyone. It is already common in almost all developed countries. Nowadays, even food waste (known as 'green waste') can be responsibly disposed of. Gadgets like old smartphones and computers can also be recycled and returned back to the companies who are able to reuse it.

- **Stop littering:** Just like we keep our houses clean and tidy, it is important that we treat the planet in the same way. It is, after all, the home of all living beings. Littering, throwing garbage here and there, spitting on the road are all actions that contribute to environmental pollution. While some may think that one person alone cannot make our cities and towns clean, the fact is that if everyone behaves in this way then it is guaranteed that our country will always be dirty and polluted.

- **Be energy-efficient:** We have already seen how using fossil-fuel energy sources leads to global warming. A simple way to help mitigate this is to adopt energy-efficient practices such as switching off lights, fans, ACs and other electrical equipments when not in use, hand-drying clothes instead of using the dryer, and buying electrical devices that use less energy—for example, LED or fluorescent bulbs and appliances with green energy ratings. Installing solar panels on the roof is a great idea. Whenever possible, opt for renewable energy – it is our only possible future.

DID YOU KNOW?

Almost 80 per cent of urban waste in India is dumped in the river Ganges.

A rooftop solar power system can provide us with a clean and efficient source of energy for the home.

- **Use ecofriendly transport:** In our country, people tend to rely on private vehicles for commuting, even for short distances. While this may seem like the most comfortable option, doing so results in air pollution and carbon emissions – both of which are harmful to us as well as the environment. Whenever possible, opt for ecofriendly transportation such as cycling, walking and car pooling. The next best option is to use public transport such as public buses and trains. Since these are used by thousands of people every day, their negative output is far less than that of private cars, which can, at best, only accommodate up to 8–10 people.

- **Go vegetarian:** Production of meat is responsible for emitting greenhouse gases since livestock rearing (or animal agriculture) is a carbon-intensive process. Right now, it is responsible for roughly 14.5 per cent of all greenhouse gas pollution. Eliminating or even reducing meat from our diets will give a huge boost to reduction of such gases in the atmosphere. Plus, it is the more humane thing to do. After all, animals deserve to live as much as we do.

- **Go local:** As much as possible, buy local products including local, farm-grown food. Transportation of goods is responsible for a significant chunk of carbon emissions. As distances increase between where the goods are manufactured and where it's actually consumed, the amount of emissions increases in proportion. By buying local, we can eliminate a major factor that's contributing to warming temperatures. Plus, local produce is always fresher and healthier. You can even go one step further and grow food in your own garden or community. Gardening has known health benefits and the food is delicious!

- **Conserve water:** Water is a precious resource and is the basis of all life. Right now we use it with the assumption that there's abundant water supply (after all, it covers 70 per cent of the Earth's surface!). But the kind of water that we require for our survival is limited in quantity. Plus, it is easier for rich people to access it than the poor, who have to rely on limited supplies offered by the government and often have to make do with dirty, contaminated water. It is important that we value this resource and do not waste it. Installing water-recycling systems and rainwater-harvesting systems in our homes and communities can go a long way in conserving water and ensuring there's enough for everyone.

- **Use green products:** There are plenty of recycled and/or green products available in the market. Although they may be slightly more expensive, in the long run they turn out to be more durable and sustainable and of better value. Look for products that are certified green or carbon-neutral by reputed agencies. Products that use sustainable, local materials are usually better than ones manufactured far away and that use artificial substances.

- **Raise awareness:** Some of us are fortunate enough to have access to the right information related to climate change, global warming and the environment. Many don't, however—either due to ignorance or lack of access. By raising awareness, we can help others to adopt green lifestyles and help save the planet. We can do this among our family members and friends, and in our schools, colleges and communities. The methods can be varied – talk to them informally, organise discussions and rallies, participate in cleanliness and tree-planting drives, join or volunteer at your local green organisations, use social media to educate others, be part of internet forums, raise funds to help conserve biodiversity and protect endangered species, and so on. There's so much that we can do to help others and ourselves!

DID YOU KNOW?

As per studies, reducing heavy red meat consumption (beef and lamb) would lead to a per capita (or per person) food- and land use-related greenhouse gas emissions reduction of between 15 and 35 per cent by 2050.

CHAPTER 5

How youth power can make a (real) difference

Steps that students can take

When it comes to global issues like environment, pollution and climate change, it can often feel daunting to do anything about it. After all, what difference can one person make? This feeling of helplessness becomes stronger when you are a young student, still learning about terms like global warming and greenhouse gas. However, each and every person can take steps to preserve and save the environment, and if you start at a young age, chances are that these good habits will stay with you when you are an adult. Every good action has a cumulative effect on the survival of the human race. The future depends on the youth – which means that there is much that you can do and should do for the sake of our planet.

Here we take a look at steps that students can take at individual, school and society levels.

Individual

- Social networks: While making changes to our lifestyles does take some time and effort (and lots of willpower), it is not impossible. In fact, thousands of young people across the globe have already changed their lifestyles and helped others adopt sustainable lifestyles. Meeting and exchanging ideas with such people, either through travel or virtually through social networks and websites, can give you the tools and knowledge to do your own bit for the environment. Use forums like Facebook, Twitter, Reddit, Tumblr, etc., to expand your network of environmentally-conscious young students.

- **The 3 Rs:** Apply the 3 Rs (reduce, reuse, recycle) in your day-to-day activities. This is the order of priority of actions to be taken to reduce the amount of waste generated and to improve overall waste-management processes. Reduce simply means reducing what we consume. Next, reuse items for a different purpose instead of throwing them in the garbage. To recycle something means that it will be transformed again into a raw material that can be then used as a new item.

Don't pollute: Avoid littering and encourage others to do the same. Think about which of your activities can cause pollution. When you burn a lot of paper, wood or garbage, it causes air pollution. Throwing waste here and there contributes to land and water pollution.

Reduce

The best way to minimise your waste is to not create it in the first place. To give an example, do we really need an extra black t-shirt or another pair of shoes? Can we try and minimise food wastage by packing only as much food as we can eat at school?

We can also buy products with the least packaging, carry our own bottles and cups when going out, and refuse single-use plastic including when we order in or get takeaway food from restaurants. Think about the personal choices you make and what effect these can have on the environment.

Reuse

Think twice before you discard something - can you use it again? Or, maybe it can be useful for somebody else? Perhaps you can use the waste to make an art project?

You can donate your old unwanted items to a charitable organisation or even organise a yard or garage sale by collecting stuff from your family and friends. You can use the money from the proceeds to buy green products or donate to others in need. If possible, ask your parents to help you create your own compost to reuse wasted food.

Recycle

Anything that cannot be reused should be recycled if possible. At our homes, take care to ensure that all waste is separated according to whether they can be recycled or not. Common household items like newspapers, PET plastic bottles, tin/aluminium containers, glass and cardboard can be recycled. You can have two waste bins: one for recyclable items and the other for non-recyclable items. If your municipality garbage collection team does not have separate processes for recycled items, make sure you contact your local NGO or any organisation that deals with such items. You can set up periodic pickups once you have consulted with them. Disposing off an item into the waste bin or landfill should be your last option, as it has a negative impact on the environment and costs money.

DID YOU KNOW?

A glass that is produced from recycled glass instead of raw materials can reduce related air pollution by 20 per cent, and water pollution by 50 per cent.

Monitor your water consumption: Explore ways of reducing and reusing your water. Simple acts like closing off the tap while brushing teeth, taking quick showers, and using the washing machine sparingly go a long way.

Adopt a local, green lifestyle: Move away from buying imported products that are grown and manufactured far off from where you live. Try and buy locally grown products including your daily food items. Avoid products that use a lot of chemicals, are tested on animals, and are not ecofriendly. A lot of green products in the market have labels that distinguish them from the not-so-green ones. Move to a personal green economy, one where you have minimal impact on the planet, and encourage your loved ones to do the same.

Decrease your carbon footprint: Think about the various ways in which you can reduce your impact on global warming. Instead of asking your parents to drive you to school or other places, why not take public transport like a bus or the metro (if available)? If it's not too far, walk or bicycle. In fact, if your streets and roads are in good condition, why not try rollerblading?

Cut down on your electricity usage by insisting on products that use less electricity, switching off lights, TV and appliances when not needed, minimally using air conditioners (can you switch to coolers since they need less power and do not give off toxic gases?), and unplugging chargers when not in use. If possible, ask your parents to opt for natural cooling methods like planting trees around your house, putting up curtains or blinds that keep the house cool in summer, and so on.

Be sure to involve and discuss these steps with your family so that they are onboard with it. If any member is not aware of key environmental issues and terms, share your knowledge with them. A healthy discussion can go a long way in informing and enlightening people!

School

School is your second home and there are a lot of steps that you can take, individually and collectively with your fellow students and teachers, to ensure that your school contributes positively to the environment. Schools have a large impact on the environment. By assessing daily energy and waste practices, students can help schools reduce their carbon footprint and become an example to other schools in their community.

Make your school waste-free: Carry out a waste-minimisation project in your school. This can start by promoting waste-free lunches, a 'no plastics' policy, reusable water bottles, and minimal usage of water. Talk about the project in your school's assemblies. Design waste-reduction posters and stickers around your school. Hold 'waste-free days' and class competitions. Start a waste compost or even vermicomposting in your school garden. Composting is a good way to convert food scraps into valuable nutrients for plants and soil microorganisms. Have food-waste collection bins near classrooms, staff rooms and dining areas to collect all unavoidable food waste (teabags, coffee grinds, fruit peelings). These can go into the compost.

Start a green project: Get your fellow students and teachers involved in a green project that can interest them. Possible options are: starting a botanical garden in the school, putting signposts and providing some information about the tree/herb/shrub (your school's gardener can help

DID YOU KNOW?

The UN Food and Agriculture Organization (FAO) estimates that global food loss and wastage is approximately 1.3 billion tons annually - roughly one-third of all food produced for human consumption.

here), planting saplings to increase the green cover of the school or starting a small nursery, building birdhouses and placing these on school grounds (you can use old and discarded shoe boxes and make this an example of reusing old materials), making paper bags out of waste/used paper and distributing these for use, and so many more! Once you kick-start this project, there should not be any lack of interest or ideas among your schoolmates.

Start a recycling programme: Talk to the teachers and principal at your school to organise a recycling programme that everyone can participate in. You can start with separating recyclable waste from non-recyclables. Organise a donation drive to recycle old items. Start a programme to recycle electronics like old computers. Place scrap-paper trays and recycling bins in every room that uses paper, and promote ways to reuse them – for example, get nursery and kindergarten students to use them as art projects. Set photocopying quotas and double-sided printing by default in every computer. Once you begin, the ideas will fly!

Promote green energy: Schools around the world are going green by installing solar panels or other renewable-energy sources like biogas to provide electricity. This might require you to mobilise a lot of support among students and teachers in your own school but is doable, especially if the school can raise funds for the same. This can be achieved by organising a donation drive, an arts exhibition, or a variety show. The great thing about clean energy is that in the medium and long term it is much more cost-effective than conventional sources.

Sandwatch project: If your school is not far from a beach, an interesting project that can be taken up is a Sandwatch programme, which is where children, youth and adults work together to scientifically monitor and critically evaluate the problems and conflicts facing their beach environments on a regular, periodic basis. They then discuss, design and implement activities and projects to address some of those issues, whilst building ecosystem resilience to climate change. Reach out to The Sandwatch Foundation for more information and useful resources.

Raise awareness: There are various ways in which you can spread awareness about key environmental issues. Start by having regular discussion groups on climate change, global warming, pollution, etc., as well as potential ideas and solutions to help mitigate them. Ask your teachers to help you organise mini assemblies on these issues. Make it a periodic activity – weekly or once in every two week works best. Choose a new topic and related activities. There are a lot of online resources (by United Nations, WWF, government sources, etc.) to help you come up with interesting activities. Design educational flyers and pamphlets to distribute among students – even better, save paper and create a basic website or a Facebook page and get students involved. Write for your school newspaper or magazine on these topics. Organise quizzes, painting competitions, essay competitions, debates, seminars, etc., on green topics.

Organise a special event, a conference, a concert or a sports event to promote environmental causes. It could coincide with worldwide events such as World Environment Day (5 June), Earth Day (22 April), Disaster Reduction Day (second Wednesday of October), World Water Day (22 March), or International Youth Day (12 August). Link up with Swachh Bharat Abhiyan events when possible.

Community

Your community is where you can expand your environmental efforts to a larger scale and reach out to thousands of people. From here you can coordinate with other students and organisations to take your concerns, solutions and demands to the people and institutions that have the power to take decisions at a national and global level. After all, the government can ignore one person but cannot drown out the voices of many.

Join forces: There are several environmental groups that you can join and be a part of. These groups provide an excellent way to gain knowledge, exchange ideas, network with likeminded people, and organise on a bigger scale. Find out which non-profit organisations operate in your area. If they are youth-based, even better. On your own, working on environmental causes can seem difficult and overwhelming. But when you are part of a collective, you gain confidence and self-assurance to take your message to the world.

Start a community project: Wherever your house may be, it is part of a small community. Why not start a community project that can bring together locals for a common cause as well as be used as a platform to educate them on environmental issues? Think of a community garden – you can come together for planting of native flowers and vegetables in any open space or park, or outside public buildings; create awareness on organic fertilisers, natural insecticides and water consumption; encourage urban composting; and promote wilderness and diversity in gardens. You can build artificial habitats such as bird feeders, butterfly gardens and bee boxes. This is a great way to bring people together.

Tree-planting drives: Organise or participate in your local tree-planting drives. Many organisations and companies organise it periodically – why not join them? Make sure that you make your voice heard and ask them to plant native trees that will thrive in the areas where they are being planted.

Cleanliness drives: You can organise cleanliness drives in your neighbourhood and local areas on at least a monthly basis. Take up a street, a park, or the beach – it is a great way to demonstrate to people the importance of cleanliness. Start by involving people in your local community and clearly explain to them the benefits of such drives; you will be surprised how many of them are willing to volunteer. Cleanliness drives are also easier to organise than tree planting. If required, collaborate with local NGOs and corporate social responsibility (CSR) wings of companies. If you know someone who works at these companies, you can ask them to help coordinate efforts. This can bring in funds as well as more participants.

Recycling drives: If your community has no recycling processes in place, form your own Green Team with students from your locality. The objective would be to boost recycling rates in your neighbourhood, providing incentive for members to take ownership of their community. The team would regularly collect and deliver used glass, aluminium and plastic containers to

recycling centres and in the process educate locals about the importance of recycling.

Disaster-risk reduction: Spread awareness in the community about natural and manmade disasters and how to minimise the risks. Help set up early warning systems, put emergency plans in place, and build personal and community resilience. Dissemination and advocacy of good practices can go a long way in times of emergency.

Community risk mapping: It is a way of mapping out in visual form the resources, services, vulnerabilities and risks in your community. The map should indicate the location of health centres, schools, housing and shelters, best routes for safe evacuation as well as the natural environment like rivers, lakes and high and low-lying areas. You can then use the map to see which parts of your communities are most vulnerable. Your map can be used to stimulate discussion among the community. It will give people a better picture of the current risks and how a changing environment or disaster can affect them.

Raise awareness: Many of your local community members may not be aware of the negative effects of pollution, littering and global warming. You can change this by organising periodic talks and discussions on such topics. Have different people take up different subjects pertaining to the environment and conduct a short session on it. Better still, invite local experts to share their knowledge. You can promote these talks through social media and messaging apps; for the older generation, use recycled paper or reuse old paper to make flyers and pamphlets, encouraging them to participate. In India, every locality organises events on important days like Independence Day or festivals like Diwali. Use these forums to promote your message. You can combine this with an art performance such as a musical piece or a short play/nukkad natak to interest the audience. This can help bring together your peers who otherwise may be reluctant to listen to your environmental concerns. It only takes one successful attempt for people to awaken to reality.

Make sure that your resident welfare association (RWA) or the official authorities in your society or locality are onboard with your efforts. Take help of your family and other local students to pitch your ideas and why they are important. Drive home the message that a dirty, polluted and warming environment harms everyone, irrespective of their wealth and power. Scour online for resources including readymade presentations and data to present your case.

CHAPTER 6

From a Green Corp to a Green Warrior

Imagine a world where each one of us does these specific activities as a matter of course. We have already discussed many of these in the previous chapters. Here we will see how all of it can come together seamlessly.

- Avoid or reduce the use of toxic products, or products that have harmful environmental, social and health effects. Do not buy pesticides and fertilisers, and use less toxic cleaning materials. Find natural alternatives if possible.

- **Buy local products.** They are much healthier and less harmful to the environment as their carbon emissions are low (transporting products is a highly carbon-intensive process). Plus, they are much more accountable to their customers as you can easily reach out to the owners and manufacturers. Locally grown and produced food is fresh, has fewer additives, and is less processed. If needed, let your supermarkets know that you want them to stock local food.

- Choose goods made by manufacturers and retailers with clear ethical policies – think fair trade, no child labour or forced labour, no animal testing. Whenever possible, buy products made from recycled materials or re-manufactured components or those which are easily recyclable.

- If you can, try and get organic food. Organic food does not contain any kind of pesticide or use chemicals that cause pollution. Animals raised in organic farms are treated more kindly than in factory farms.

- **Buy seasonal food.** Producing crops out of season means either growing them in greenhouses or importing them. Plus, they are so much more delicious!

- Think about how you can make your lifestyle a sustainable one. Make the 3Rs a part of your everyday routine. Think before you buy. Ask yourself these questions before buying something: do you need to buy this? Could you reuse something else instead, or could you borrow it from someone else? Can this product be recycled or reused later? These simple questions can significantly reduce your carbon footprint.

- If you need to buy something, make sure it's local and organic. If that's not possible, at least try and ensure that the product has minimal impact on the planet – read consumer associations' guidelines and online resources to distinguish the good products from the bad. Avoid petroleum-based products like plastics, gasoline, heating oil and diesel.

- **Reduce.** Often times we buy stuff that we don't really need. For instance, we pack more food for our school lunch than we can possibly eat. Evaluate the choices you make and see if you can reduce wastage. Get your parents and family on board. At school, why not plan a waste-free lunch day to educate everyone on food wastage? Ask everyone to bring reusable containers and utensils, and avoid single-use plastic bags and disposable forks, spoons and straws.

- **Donate.** There are many organisations and food banks that are working on donating leftover food to poor, hungry people or animal shelters. Try and collaborate with them to reduce wastage. You will be doing a good deed and helping the environment.

- **Reuse.** Before buying anything new, evaluate if it is durable/reusable/biodegradable. Reusable plastic, containers, utensils, etc., have become quite common. Avoid products with excess packaging; instead, opt for products with no packaging, or returnable or reusable packaging. Food wastage can be turned into organic compost in your own backyard. You will be surprised to know that many objects that we usually discard can be used for a variety of purposes. Old tyres can be made into shoes, old glass bottles into house insulation, plastic bottles into fleece fabrics, and flowerpots made out of recycled paper. Old cardboard boxes can be made into storage totes or birdhouses, which is a fun and safe way to help us connect with nature and inspire others to protect wildlife. Old plastic bottles can be made into plant holders – fill it up with soil and grow flowering plants.

- **Trade products.** If you can't reuse, swap with others. Organise your own trade/swap event or join one of the many online forums that facilitate such transactions. You can also swap with friends, instead of buying new products; or rent first to see if you really want to own it.

- **Recycle.** Make sure to recycle anything that cannot be reduced or reused. Always separate recyclables in your waste bins, especially glass and aluminium. Work together with your family to decide what items can be recycled, such as newspaper, cans, glass and plastic bottles. Ask your parents to look into the recycling rules in your city/town and keep as much out of your garbage cans as possible. In the community, you can start a recycling project with the help of others (if there's not one already).

DID YOU KNOW?

Un-recycled glass can take up to a million years to decompose. Always make sure to recycle your glass.

- **Start a petition.** If your local municipality doesn't have separate pickups for recyclables, start a petition for them to start one. This can also be a great way to mobilise people for a good cause and spread awareness on urgent environmental issues. Countries and cities, rich and poor, have processes in place for recyclables – there's no reason why yours can't start one.

- **Buy used and recycled goods.** Look for items with recycled content, such as recycled paper and plastic. Try starting with school supplies like recycled notebooks, pens and paper. Buy used goods whenever possible. For instance, buy used books and DVDs, or borrow them from the library to reduce the environmental impact of production.

- **Recycle electronics.** Many companies have their own recycling programme wherein they accept old electronics from customers. Have your parents help you find the places to recycle old batteries and electronics (televisions, computers, etc.). Do your bit to keep these harmful products out of the oceans and off the land.

- **Go vegetarian.** Do it at least once a week. Meat production is a carbon-intensive process, contributing to global warming. Plus, vegetables are a necessary part of a healthy diet.

- Start your own awareness campaign about green initiatives and opportunities, and invite people to join you. Create your own network with various groups through different forms of communication (face-to-face, print, online forums, social media, etc.). Start with your circle of friends and family, and move to your school and community groups. The topic can be anything that is close to your heart – anti-littering, cleanliness and hygiene, preserving biodiversity, enhancing green cover in your area, saving an endangered species, climate-change action, and so on.

- **Volunteer.** There are thousands of NGOs operating in your city/town. Find out which ones work in an area that interests you and volunteer there. It only takes a few hours every week and you will gain valuable knowledge and experience, and meet people who can help you in your campaigns and initiatives.

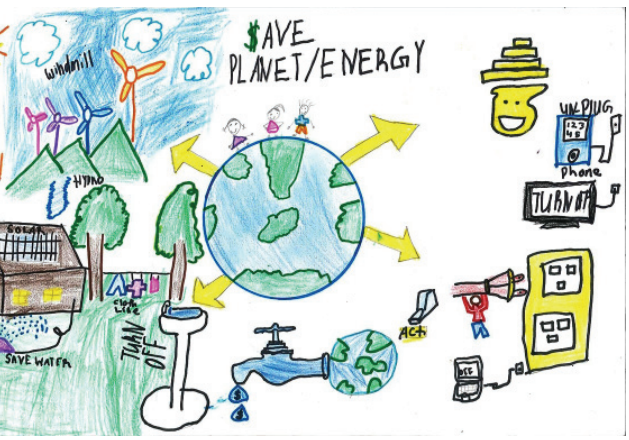
- Identify an ecological-restoration project in your area and become an active participant. Most areas already have groups active in restoring habitats, eliminating invasive species, saving species in danger, and so on.

- India has so many festivals – why not turn our festivals and celebrations into opportunities for learning by exploring the origins and traditional ways of celebrating? Discover materials and objects used, rituals, songs or meanings that depict the close relationship between human beings and nature.

- Starting your own gardening project is a great hobby and it helps the environment! If your house doesn't have a backyard, find space in your local community by talking to the relevant authorities – community gardens are quite common in many localities. Plant diverse kinds of native plants, use natural fertilisers and avoid chemicals, let plants grow naturally and ensure that bees are attracted.

- **Walk, cycle, rollerblade.** The increasing number of vehicles on the road is not only the biggest reason for traffic but also one of the main sources of toxic gases that contribute to air and noise pollution and global warming. Whenever possible, choose to walk, cycle, or rollerblade. Or use a mini scooter. Not only is it a good form of exercise, your own carbon footprint will go down as well. Else, opt for public transport like trains and buses. If you have to use cars, go for carpooling where feasible. Having your parents drive you around in a car should be the last option.

- **Switch off.** Do you switch off electronic appliances, phone chargers, lights and fans when not in use? Or do you let them be because you think switching them off isn't going to make any difference? Small but important habits like using electricity only when you need them go a long way in cutting down your energy needs. This becomes quite significant when the source is fossil fuels (true for most of us). Other steps that you can take are: switch off the TV instead of letting it be on standby (a TV set on standby can still use 1/4th of the energy it uses when it's on); don't use more hot water than you need (cool showers keep you young); take the stairs, not the lift (keeps you fit too); hang clothes in the sun instead of using a dryer.



- **Use the right product.** Buy energy-efficient, compact fluorescent or LED light bulbs – these last longer and consume less electricity. Replace old household appliances with newer, energy-efficient ones (there are plenty in the market). Use less batteries as they are highly polluting – opt for rechargeable ones if you need them.

- **Have a strict 'no littering' policy.** Treat public spaces as you would treat your own home. Encourage others to do the same.

- **Support biodiversity.** Develop biodiversity consciousness among your friends and fellow students by organising nature trails in wildlife sanctuaries and parks; go bird watching, take pictures, and make a scrapbook out of those; collect articles and news items related to environmental issues affecting biodiversity and make another scrapbook. Better still, create your own basic website or social media page to disseminate the information to the wider public. Organise a campaign that combines both learning about biodiversity (species at risk, threats to biodiversity) and taking action for biodiversity (e.g., petitions, raising funds to protect an endangered habitat, protecting a local biologically diverse area).

- **Educate and organise.** There are various platforms that you can use to spread awareness on environmental issues. On your own, you can talk to your family and friends and get their support. Social media is an easy and great way to reach out to thousands of people in different corners of the world – make a YouTube video, create a Facebook page, document on Instagram and SnapChat, post messages on Twitter, maintain a blog. If you keep putting up posts, your audience will increase exponentially with every post. Write an article for your local newspaper and magazines. In school, you can get the backing of your teachers and fellow students to collectively take up these issues. Join an environment-based NGO or volunteer at your local green groups. You can be a part of periodic rallies, talks, cleanliness and tree planting drives, art and theatre groups that work for green causes – the possibilities are endless.

- **Sensitise people.** Organise awareness programmes against defecation in public places and promoting personal hygiene habits (for example, washing hands before meals). Take up issues that can interest your local community as they have a stake in it – for example, maintenance and cleanliness of public

DID YOU KNOW?

Mobile phones, shavers and electric toothbrushes keep drawing electricity even when the battery is full.

places like parks and gardens, garbage disposal in unauthorised places, unsafe disposal of waste, etc. All of these issues affect everyone in society and are therefore a good starting point to awaken their interest in the environment.

- **Expand your horizons.** Be a part of international forums that are promoted by United Nations (and similar other global organisations) so as to get a broader perspective on environment causes and network with students from different countries. You will be surprised to learn the brilliant and innovative ideas and solutions that young students are experimenting with. It might spur you to come up with interesting projects and solutions of your own. At the very least, you will be a part of a global youth movement working towards a greener planet.

- **Adopt water conservation.** Use only as much water as required. Often we forget that water is a finite resource, especially the freshwater that supplies all of our water-based needs. With increasing warming, water shortages, especially for the poor and needy, are expected to increase. Ensure that you do not waste water by taking long showers, leaving taps running, using the washing machine frequently, buying bottled water, etc. Monitor your water consumption everyday and explore ways of reducing the same at home and school (look at ways to reuse your water). Share your tips with your family, friends and community.

- **Recycle water.** Talk to your parents or your community members (if you live in a housing society) about installing rainwater-harvesting tanks in your house or building. This is already becoming quite common in many places. Go one step further and mobilise support for a water-recycling system as well. If needed, donations can be raised for the same. These systems are cost-effective, reduce dependency on government water supply, and are a good long-term investment. You can do the same at your school by pitching to your teachers and principal.

- **Be aware.** Do a survey of your neighbourhood at home and school. Identify locations with open drains, stagnant water, and possible contamination of groundwater by sewage. Call these issues out to the relevant authorities and/or your family.

- **Walk and talk.** A 'walk and talk' is a way to spread your message face-to-face with people. Organise a day, time and venue for your group (schoolmates, friends, etc.,) to meet where your target audience will be present in large numbers (for example, young people). Get their attention by playing games, singing songs, or acting out skits on related topics. Start a conversation with individuals and groups of people about climate change and environmental issues in a friendly, polite way. Exchange information with them and help them identify what kinds of actions they can take to reduce their carbon footprint. Have a grownup familiar to you nearby just in case.

- **Combine your causes.** You can combine your good work on the environment with other worthy causes. For instance, some cleanliness drives can take place in nearby slums, thereby also helping eliminate mosquito-breeding places. Ask your local municipality to install garbage bins in those areas; donate your old clothes, books, kitchen stuff, etc., to organisations that work with the needy, etc. There are multiple ways in which you can help save the planet and the people living on it too!

DID YOU KNOW?

By 2020, between 75 million and 250 million people in Africa are projected to be exposed to increased water stress due to climate change.

- **Celebrate Earth Hour.** It is an annual worldwide event held to encourage individuals, communities, households and businesses to turn off their lights (the non-essential ones) for an hour. It is held on the last Saturday in March as a symbol of their commitment to the planet. Join the Hour and use this event to inform others about energy conservation and the benefits of renewable energy.

Where everything else fails or is struggling to succeed, it's our imagination – of an Earth that is nurtured by us collectively and individually – that will save the day and lives for many, many generations more.

DID YOU KNOW?

The Earth might seem like it has abundant water, but in fact less than 1 per cent is available for human use. The rest is either saltwater found in oceans, freshwater frozen in the polar ice caps, or too inaccessible for practical usage.

A list of dos and don’ts

Do’s

- Believe in the power of individual and collective action when it comes to the planet – both are important.
- Educate yourself on the basics of climate change.
- Maintain a sustainable lifestyle based on the 3 Rs.
- Keep yourself and your surrounding clean always.
- Talk to your family, friends, classmates, teachers and neighbours about the environment.
- Exchange ideas – the internet has opened up the world to us. Explore it.
- Network and volunteer, both on a local and global level.
- Give your time and resources to those who are less fortunate than you.
- Believe that a better, greener, cleaner world is possible!

Don’ts

- Listen to people who say one person cannot make a difference to the planet.
- Isolate yourself and try to do everything on your own. Collaboration is key if you want results.
- Litter and pollute.
- Buy stuff that you don’t absolutely need – overconsumption is a major reason why the Earth is suffering.
- Waste the planet’s resources.
- Spend more energy than required, especially if it comes from non-renewable, fossil fuels.
- Become agitated with a climate-change denier. Instead, try and reason with them. Science and facts are on your side!
- Waste water – it is not infinite.
- Stop raising awareness on environmental issues. Keep spreading the message.
- Give up! Change is possible.