

Date ___/___/___ 1. Nature of Environment Studies

1) Plastic

i] Recall about all the articles you see daily that are made from plastic. Prepare a list of the plastic articles you usually use.

— Mug, Bucket, brush, tiffin box, phone, carpes & so on.

ii] How can you reduce the amount of plastic you use?

— The use of plastic can be reduced in following ways.

a. Stop using plastic bags. We can use reusable cotton bags instead.

b. Stop using plastic straws. One can use paper straws instead.

c. Buy food package in reusable paper bag.

d. Reuse Food Container like glass jar.

e. Make fresh Squeezed juice or eat fruit instead of buying ~~juice~~ juice in plastic bottle.

iii] What effect does plastic have on our environment?

→ 1] Plastic is generally not recyclable or biodegradable. Plastic photo degrade breaking down into smaller and smaller toxic bits contaminating soil and waterways and entering the food web when animals accidentally ingest them.

- 2] A plastic bag can take between 400 to 1000 yrs to break down in the environment.
- 3] Plastic bags cause over 100,000 sea turtle & other marine animals' death every year when animals mistake them for food.
- 4] Nearly 90% of the debris in the our ocean is plastic.
- 5] Plastic requires large amount of chemicals during its production which is costly to environment.

Q] When did the plastic come from / how is it made?

→ The main type of raw material used to make plastic are fossil product, such as crude oil and natural gas, though it can also be made from other things. There contains compounds called hydrocarbons that can be used to make monomers, which can be then processed to make plastic. Once the monomers are extracted they are chemically treated to make them bond together and form long polymer chain. This is normally done by polymerisation. In this process, the monomers are mixed with another chemicals that acts as a catalyst and cause them to combine with each other forming a resin. After this, the resin polymer can be molded or shaped into the end product.

Q] What happens to it when you throw it away? / where does it go?

- Plastic are generally not bio-degradable. Therefore when the plastic are thrown away they do not decompose. Instead they are deposited in landfill taking up to huge space plastic photo-degrade. They break down into smaller & smaller toxic bits contaminating soil & waterways which is harmful for ecosystem.

2. Fossil Fuels

• How much do you use daily, weekly and annually?
Can you reduce your consumption?

→ Daily - half litre, weekly 3-5 litre & yearly 180lt

The Fuel consumption can be reduced by Following:

a. Minimizing vehicle use: we can use public transport or non-motorized option like bicycle & walk. Also sharing a ride to work with a friend or two effectively doubles the fuel efficiency.

b. Driving in the right gear

c. Driving in constant speed. Stop / start driving is less efficient and more polluting than driving at a constant speed.

d. Minimizing fuel wasted in idling.

e. Using air conditioning sparingly.

- What effect does it have on the air we breathe?
 - one of the major causes of air pollution is burning of Fossil Fuel. Combustion of Fossil Fuel liberates gases like Carbon dioxide and Carbon monoxide. Carbon monoxide combines with hemoglobin in blood to form Carboxyhaemoglobin and makes it incapable of transporting oxygen. Many hydrocarbons are serious health hazards.
 - When we leave a vehicle running idling at a traffic stop, we do not usually remember that the fuel we are wasting is a part of a non-renewable resource that the earth cannot reform once all the fossil fuel are burnt off, it will mean the end of oil as source of energy.

3. Water

- How much you waste when you:
 - a) Brush your teeth? - a mug.
 - b) Have a bath? - a full bucket
 - c) Wash clothes? - three buckets
 - d) Wash the Scooter or car? - 2 buckets
- Where did the water come from? What is its actual source? How has it reached you?
 - A clean constant supply of drinking water is essential to every community. People in large cities frequently drink water that comes from surface sources like lake, river & reservoir.

Sometimes these sources are closed to the community. Other times, drinking water suppliers get their water from some miles away. In either case, when you think about where your drinking water comes from it's important to consider not just that part of the river or lake that you can see but the entire watershed. The watershed is the land area over which water flows into the river, lake or reservoir.

- Where will waste water go?

- It is sent to a waste water treatment plant or water recycling plant to be cleaned. In the absence of such waste water treatment plant, this polluted water gets mixed in rivers.