



**\*ENVIRONMENT & SDG HIMALAYA**  
**FELLOWSHIP \***

**ASSIGNMENT**

**SUBMITTED BY:**

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# Week-2

- **Step 1. Non Bio-degradable Material- Choose a suitable non-bio degradable material to observe its decaying. Thus, discuss its issue for our environment and ecology (carry forward the learnings of activity of week 1).**

## TYPES OF MATERIAL:

- **Biodegradable Waste:**

Biodegradable materials are those, which degrade or break down in a natural manner. In other words, their decomposition happens with the help of natural agents like sunlight, micro-organisms, water, ozone and more which turns it into organic manure.

Thus, these substances are non-toxic to the environment comprising of only natural materials. For instance, fruits, vegetables, flowers, plants, animals, water, paper and more are examples of biodegradable waste.

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- **Non-biodegradable Waste:**

Non-biodegradable substances are materials which do not degrade easily. As they are synthesized and do not occur naturally, degradation is impossible with these products. Therefore, when they stay in the ecosystem for a long period and do not decompose, they harm our environment. Non-biodegradable substances are materials which do not degrade easily. As they are synthesized and do not occur naturally, degradation is impossible with these products. Therefore, when they stay in the ecosystem for a long period and do not decompose, they harm our environment.

- **Step 2. Degradable Material- Understand the degradable material through its Degree of Decay or Level of Decay, observe the following items listed for understanding natural decay listed below.**
  - a. Apple**
  - b. Potato**
  - c. Cauliflower**
  - d. Lemon**
  - e. Human Tooth/ Flesh**

## DEGRADATION OF NON-BIODEGRADABLE MATERIAL:

### 1. Plastic bags: 10–1,000 years

The biggest impact of plastic bags on the world is that it takes many years to decompose. In addition, toxic substances are released into the soil when the plastic bags die under direct sunlight and, when the plastic bags are burned, they release toxic substances into the air causing air pollution. Plastic bags are randomly

disposed of at landfills around the world that absorb tons of acres of land and emit methane and carbon dioxide emissions as well as high toxic leaks from these landfills during decay. Waste from plastic bags poses a serious environmental risk to human and animal health. If plastic bags are not disposed of properly, they can have an impact on the environment by creating waste disposal and preventing rainwater runoff. Animals often confuse food bags and eat them, thus hindering their digestive processes. Plastic has been identified as a problem in the marine environment since the 1970s, but the issue of plastic pollution in marine and freshwater areas has recently been identified as a global problem.

#### DEGRADATION OF BIODEGRADABLE MATERIAL:

1. Apple: 1-2 months Apples can rot and decay over time. Normally, it takes 40-45 days for it to decompose completely in the environment. Typically, mold and fungi cause the fastest decay. Molds and fungi thrive best in punctures and bruises. Rotten apples are affected differently by different pathogens. Apple flesh contains chemical compounds called phenolics, which react with oxygen when exposed to air. After the apple skin is broken, the compounds in the apple become exposed to oxygen, which activates polyphenol oxidases, which cause the apple to turn brown. Depending on the environment, this process takes 18-20 days.

2. 2. POTATO: 1– 3 months Normally, it takes almost three months for them to decompose. Carbohydrates and starches are abundant in potatoes. During the first month, the potato's internal water decreases and its size decreases. The potato's outer skin breaks when it is moist, as fungi attach themselves to the potato. Normal potato shrinkage occurs only when the skin begins to age.

3. FLESH: 3 weeks to 20 years In a temperate climate, it usually requires three weeks to several years for a body to completely decompose into a skeleton, depending on factors such as temperature, humidity, presence of insects, and submergence in a substrate such as water.

4. CAULIFLOWER: 1-3 weeks It takes 18-20 days for cauliflower to decay. Brown spots appear on the outside of the cauliflower head as the first sign that it is going bad. As cauliflower is stored, it naturally discolours due to oxidation. Vegetables undergo natural oxidation as a result of prolonged contact with light and air. Afterward, the cauliflower will begin to smell, and it will become slimy and wet.

5. LEMON: 2- 4 weeks Lemons decay within two weeks. Bad lemons usually have a soft texture and some discoloration. If a soft spot develops, it will soon become moist and start to grow mold, usually white at first. During the ripening process, some of the water from lemons is lost. If the lemon yields to pressure only slightly, it is perfectly fine. The rind may be wrinkled, or the whole fruit may be squishy if it's already shriveled.