### Chapter 3: Environmental Impact of Technology

##### - Insightful Questions:

- How does technology consumption affect the environment?

- What can you do to reduce your digital footprint?

##### - Tasks:

#### Calculate Your E-Waste Contribution

Calculating your e-waste contribution involves understanding the electronic devices you own, how often you replace them, and how you dispose of them. Here’s a step-by-step guide to help you calculate your e-waste contribution:

##### Step 1: Inventory Your Electronic Devices

- List all the electronic devices you currently own. This includes smartphones, tablets, laptops, desktops, monitors, TVs, printers, gaming consoles, smartwatches, and any other electronic gadgets.

- For each device, note the following information:

- Type of Device (e.g., smartphone, laptop)

- Brand and Model

- Purchase Date or approximate age of the device

##### Step 2: Determine the Lifespan of Each Device

- Estimate the typical lifespan of each type of device. You can use the following average lifespans as a guideline:

- Smartphones: 2-3 years

- Laptops: 3-5 years

- Desktops: 5-8 years

- Monitors: 5-7 years

- TVs: 7-10 years

- Printers: 5-7 years

- Gaming Consoles: 4-6 years

- Smartwatches: 2-3 years

##### Step 3: Track Replacement Frequency

- Record how often you replace each device. For instance, if you buy a new smartphone every 2 years, note that down.

- If you have replaced any devices in the past year, note the old devices that were replaced and how they were disposed of.

##### Step 4: Assess Disposal Methods

- Determine how you disposed of each replaced device. Common methods include:

- **Recycling:** Properly recycled through an e-waste recycling program

- **Donation:** Donated to a charity, school, or another person

- **Resale:** Sold to someone else or traded in

- **Storage:** Kept in storage and not currently in use

- **Landfill:** Thrown away with regular trash (not recommended)

##### Step 5: Calculate Your Annual E-Waste Contribution

- Based on your inventory and replacement frequency, estimate the number of devices you dispose of each year.

- Calculate the weight of each device using average weights (approximate values in pounds):

- **Smartphones:** 0.44 lbs (0.2 kg)

- **Laptops:** 5.5 lbs (2.5 kg)

- **Desktops:** 19.8 lbs (9 kg)

- **Monitors:** 8.8 lbs (4 kg)

- **TVs:** 33 lbs (15 kg)

- **Printers:** 22 lbs (10 kg)

- **Gaming Consoles:** 7.7 lbs (3.5 kg)

- **Smartwatches:** 0.11 lbs (0.05 kg)

- Multiply the number of devices you dispose of by their respective weights to find your total e-waste contribution in pounds per year.

###### Example Calculation (lbs):

1. **Smartphones:** Replace every 2 years, 0.44 lbs each

- **Annual contribution:** 0.44 lbs / 2 = 0.22 lbs/year

2. **Laptops:** Replace every 4 years, 5.5 lbs each

- **Annual contribution:** 5.5 lbs / 4 = 1.375 lbs/year

3. **TVs:** Replace every 10 years, 33 lbs each

- **Annual contribution:** 33 lbs / 10 = 3.3 lbs/year

**Total annual e-waste contribution** = 0.22 lbs + 1.375 lbs + 3.3 lbs = **4.895 lbs/year**

###### Example Calculation (kg):

1. **Smartphones:** Replace every 2 years, 0.2 kg each

- **Annual contribution:** 0.2 kg / 2 = 0.1 kg/year

2. **Laptops:** Replace every 4 years, 2.5 kg each

- **Annual contribution:** 2.5 kg / 4 = 0.625 kg/year

3. **TVs:** Replace every 10 years, 15 kg each

- **Annual contribution:** 15 kg / 10 = 1.5 kg/year

**Total annual e-waste contribution** = 0.1 kg + 0.625 kg + 1.5 kg = **2.225 kg/year**

##### Step 6: Reflect and Plan for Improvement

- Reflect on your e-waste contribution and consider ways to reduce it:

- Extend the lifespan of your devices by taking better care of them.

- Opt for repair instead of replacement when possible.

- Choose devices with longer warranties and upgrade options.

- Ensure proper recycling of e-waste through certified programs.

- Support companies with sustainable practices.

By understanding and calculating your e-waste contribution, you can take meaningful steps to reduce your environmental impact and promote sustainable technology use.

##### - Actionable Items:

- Research and implement eco-friendly tech practices and choose energy-efficient gadgets.

- Recycle old electronic devices.