Recyclable Camera Dissection

Group 1

FUNCTIONAL COMPONENTS:

- **Lens**: forms an image by bending light rays at a particular angle to the lens
- **Shutter mechanism**: allows for closing and opening of a light path so the focal point of the lens can interact with the light rays
- **Film**: performs the function of image sensing and recording in order for the images to be able to be printed
- **Viewfinder**: serves as the function of view selection
- **Film transport and counter mechanism**: these prepare the image sensor
- **Electronic flash**: supplements available light to make photo brighter
- **Energy cell**: source of electrical power for the flash unit (in the form of a AA battery)
- **Outer housing/internal frame**: arranges the components and protects the internal components

Although the camera is composed of all of these different, individual parts, it is manufactured to work cohesively together to produce a stable, dependable camera that can take a crisp photo.

Most of the parts are made from different varieties of plastic. The only metal found within the camera makes up the parts of the shutter, spring, and circuit board.

When these parts are being manufactured, they are designed with the idea of recyclability in mind. No material that is used for the camera is disposed of in a landfill. The plastic pieces are ground and recycled. The circuit boards and other electronic components are reused up to 10 times. Other internal parts that are in good condition are put into new single use cameras.

Disassembly and reassembly of the camera is not difficult if done in the correct order and with some care. The following are the steps our group took to disassemble the camera:

1. Remove the outside covers using four tabs and a screwdriver
2. Remove the plastic cover holding the lens
3. Take out the circuit board (carefully)
   - Discharge the flash circuitry
4. Remove lens and plastic pinhole covering
5. Remove shutter and shutter release
6. Remove viewfinder, counter, and winding gears
7. Remove last two metal springs
When it comes to possible redesign, the camera is already about 90% recyclable. However, there could be some improvements in the packaging of the camera. Also, the size of the camera could maybe be reduced to use less material.

FLOW CHART: