

Name _____

Date _____

E-WASTE / RECYCLING FREE RESPONSE PRACTICE

Approximately 30 million mobile devices were sold in 1998 in the United States.
The number sold increased to 180 million devices in 2007.

- (a) **Calculate** the percent increase of mobile device sales from 1998 to 2007.
- (b) Each mobile device sold in 2007 contained an average of 0.03 gram of gold. **Calculate** the number of grams of gold that were used in the production of the mobile devices sold in 2007.
- (c) Assume that the average mass of each mobile device was 0.1 kilogram. The United States Environmental Protection Agency estimates that about 10 percent of the mobile devices sold in 2007 were recycled. **Calculate** the mass (in kilograms) of the mobile devices sold in 2007 that were not recycled.
- (d) Discarded mobile devices become part of the electronic waste stream (e-waste). Mercury is often present in e-waste. **Identify** one negative human health effect, other than death, associated with exposure to mercury.
- (e) Improper disposal of e-waste has harmed human health and caused environmental damage in developing countries.
- (i) **State** TWO reasons why large quantities of e-waste from the United States are shipped to developing countries rather than being recycled in the United States.
- (ii) Retailers or manufacturers could take specific steps to dramatically reduce the amount of e-waste. **Describe** a realistic change in current practices that would accomplish this.