

### VIII. Nature versus Nurture: Genes versus Environment

- A. Both play a role
- B. Genotypes are expressed as phenotypes.
- C. \_\_\_\_\_ impact the effect of \_\_\_\_\_
- D. \_\_\_\_\_ and \_\_\_\_\_ are responsible for significant variation \_\_\_\_\_ in individuals.
- E. Examples: \_\_\_\_\_ and \_\_\_\_\_ affect how genes are expressed in the phenotype of individuals.
  - a. **Poor** \_\_\_\_\_ can prevent an individual from achieving full \_\_\_\_\_.
  - b. Exposure to ultraviolet radiation can \_\_\_\_\_ the amount of \_\_\_\_\_ in the skin making it appear darker.
  - c. Increase of **coronary** \_\_\_\_\_ and **Type II** \_\_\_\_\_ in human populations undergoing industrialization (unhealthy food choices, smoking, & lack of exercise.)

#### F. Environmental factors that affect the phenotype expression of genes.

Before Birth	After Birth
	Climate (temperature, pH)
Chemicals around <b>developing cells</b>	
	Geography
<b>Birth order</b>	
	Exposure to
	use
	Chemicals in

- For each example, state the type of environmental influence on phenotype:

Himalayan rabbits \_\_\_\_\_

Dandelion \_\_\_\_\_

Buttercup \_\_\_\_\_

Bees \_\_\_\_\_

Speckled wood butterfly \_\_\_\_\_

Rock hopper penguin \_\_\_\_\_