**Genetic Disease and Disorders**

**Genetic Disease**

* It only takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gene!

**Mutations--Mutation**

* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the order of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in DNA
* Can cause a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ effect (cancer, asthma), \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ effect (immunity to malaria, evolution), or a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ effect (not noticeable)
* Caused by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (UV radiation, chemical) or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mistake when DNA is copied

**Mutations--Genetic Disease**

* A disorder caused by a mutation in an organism’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* May be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from a parent
* May not be inherited and results from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mutation during a person’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Most are triggered or worsened by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ factors (smoking, poor diet, lack of exercise, exposure to dangerous chemicals)

**Cancer**

* Cells’ DNA is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causing them to grow and divide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Cells do not die normally and begin to grow where not needed (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Cancer cells can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ other parts of the body
* Over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ types of cancer
* 580,350 people died of cancer in the U.S. last year

**Hemophilia**

* Bleeding disorder where your blood does not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (form a scab)
* People will bleed for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ periods of time and could potentially bleed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* More common in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than females because it is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ trait (X-linked recessive)

**Down Syndrome (Trisomy 21)**

* Caused by an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ copy of the 21st chromosome when sex cells are passed to offspring
* Causes significant \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ problems (speech, health, learning)
* Noticeable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ traits (short stature, large tongue, low muscle tone, slanted eyes)

**Sickle Cell Anemia**

* Serious disorder where body makes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-shaped red blood cells. (“Sickle-shaped” = crescent)
* Sickle cell anemia is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, lifelong disease. People who have the disease are born with it. They inherit two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ genes for sickle hemoglobin—one from each parent.
* Sickle cells are stiff and sticky. They tend to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ blood flow in the blood vessels. Blocked blood flow can cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, organ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and raise the risk for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Spina Bifida**

* Spina bifida is a birth defect resulting from the bones in the backbone not forming around the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ correctly
* It can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The cause is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but thought to be an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ factor that causes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to not create the cells properly

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