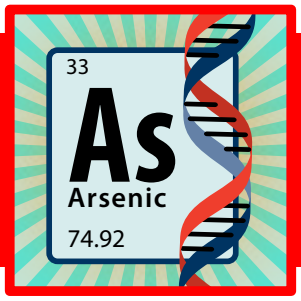
UNIT: DNA
LESSON 1: ARSENIC AND EPIGENETICS: A DNA STORY
ACTIVITY 1A: CONGA LINE



Vocabulary Definitions
Biology Vocabulary

Body Systems A group of organs and tissues working together to perform important functions in the body.

Body Mass Index (BMI) Height-to-weight ratio. Calculate by dividing weight in kilograms by height^2 in meters.

Circulatory System The heart and blood vessels move blood through the body bringing oxygen and nutrients and removing waste.

Diffusion The movement of substances from a point of higher concentration to lower concentration.

Glucose A simple sugar molecule ($C_6H_{12}O_6$) the body uses as the primary source of energy in the body.

Tissue A group of cells that work together to perform a specialized function.

Insulin Resistant Cell receptors unable to respond to insulin preventing glucose from entering the cell. Elevated glucose in the blood causes the pancreas to increase insulin production.

Methylation The chemical bonding of methyl groups (CH_3) to DNA that changes when genes are active and not active.

Type 2 Diabetes (T2D) High blood sugar levels in the blood caused by the body's inability to produce or use insulin correctly.

Organs A group of different tissues that work together to perform a body function.

Gene Expression The process when a gene is activated and performs a function, appearing as a phenotype.

Skeletal System A collection of bones, tendons, and ligaments that form the body's framework.

Biosignature Molecules in the blood that indicate evidence of exposure to arsenic.

Biomarker A chemical signal found in blood, body fluids, or tissues that signify a normal or abnormal process, condition, disease.

Epigenetics The study of how changes in gene expression affects the phenotype but DOES NOT change the DNA sequence.

Phenotype Observable physical characteristics of an organism such as how they look and act.

Toxins Substances that are harmful or poisonous to humans such as arsenic.

Insulin Hormone produced by the pancreas that lowers the levels of glucose in the blood.

Metabolic Diseases An alteration of the body's biochemistry which results in cells, tissues, or body systems to function abnormally.

Differentiate Immature cells take on individual characteristics which then mature into tissues and systems with specialized functions.

Nervous System A network of specialized cells that carry messages to and from the brain to various parts of the body.

Pancreas Endocrine system gland located in the abdomen that produces the hormone insulin to aid in digestion.

Placenta A temporary organ that forms in the uterus during pregnancy. Provides nutrients and oxygen to the offspring.

Stem Cells Cells that have the potential to develop into many different types of cells in the body.

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