My portfolio includes pieces of work that show **what I can do** using these **science and engineering practices**.

- Asking questions
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations
- Obtaining, evaluating, and communicating information

My portfolio includes pieces of work that show **what I know** about these **disciplinary core ideas**.

- The collection of fossils and their placement in chronological order in the geologic time scale is known as the fossil record. It documents the existence, diversity, extinction, and change of many lifeforms throughout the history of life on Earth. (LS4.A, ESS1.C)
- Anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record enable the reconstruction of evolutionary history and the inference of lines of evolutionary descent. (LS4.A)
- Comparison of the embryological development of different species reveals similarities that show relationships not evident in the fully formed anatomy. (LS4.A)
- Genes (and their corresponding alleles) are located in the chromosomes of cells. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. Changes (mutations) to genes can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. Genetic mutations can lead to variation in a population. (LS3.A, LS3.B)
- Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited. In sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. (LS3.A, LS3.B)
- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Natural selection leads to the predominance of certain traits in a population, and the suppression of others. Thus, the distribution of traits in a population changes. (LS4.B, LS4.C)
- In artificial selection, humans have the capacity to influence certain characteristics of organisms by selective breeding or the use of other genetic technologies. (LS4.B)

My portfolio includes pieces of work that shows **how I think** using these **crosscutting concepts**.

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Energy and matter
- Structure and function
- Stability and change
- Systems and system models
- Systems and system models