

**Topic:** Unit 1 Structure & Function Test

**Summary:** Students are assessed on DCI LS1.A.

**Goals & Objectives:** Students will be able to demonstrate their understanding of the first unit by answering three application questions.

**Time Length:** 40 minutes

**NGSS Standards:** HS-LS1-1, HS-LS1-2, HS-LS1-3. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. Plan and conduct an investigation to provide evidence those feedback mechanisms maintain homeostasis.

**Materials:**

pencil or pen

**Prerequisite Knowledge:** Students have already been taught all three standards.

**Accommodations:** Students with an IEP can use their notes / binder / textbook to answer the questions.

**Evaluation:**

Create a bulleted list of concepts / mandatory keywords. Underline the matching sentences / phrases in the students' answers.



## Key

**Using real life evidence, what proof is there that DNA codes for proteins and those proteins do the work for cells?**

1. When a gene is mutated, it creates a mutant protein (used real gene mutation)
2. The mutant protein has a changed function (structure determines function) which can be seen (for example, sickle cell)

**Pick two human body systems and use them as an example. Explain what would happen to one system if the other system fails? Use real life examples in your explanation.**

3. 2 body systems (circulatory, digestive, muscular, skeletal, nervous, respiratory, excretory, endocrine, integumentary, lymphatic, immune)
4. Gave a real life example of when one fails
5. Gave a real life example of how the other system is affected

**How does your body keep you alive when there are changes in your environment? Use a real life example in your explanation.**

6. Feedback loops
7. Used a real life example in explaining a feedback loop