

Anatomy/Biological Systems Curriculum Track

High School Learning Objectives:

After completing this course, Scholars will be able to:

1. Analyze the impact of consuming adequate and inadequate amounts of nutrients.
2. Evaluate the effects of healthy nutrition on exercise.
3. Articulate the health and academic benefits of physical activity
4. Evaluate the role that media plays in our health decisions.
5. Connect nutrition to metabolic diseases, specifically diabetes.
6. Explain the role that insulin plays in regulating blood glucose.
7. Analyze factors that influence type 2 diabetes, both in Baltimore and nationwide.
8. Develop a product to help regulate or decrease the occurrence of diabetes.
9. Explain the connection between metabolic diseases and cancer.

Middle School Learning Objectives:

At the conclusion of the Anatomy curriculum, Scholars will be able to:

1. Identify 5 anatomical definitions (e.g. proximal, distal, anterior, etc.).
2. Verbalize 5 common safety rules when working in the dissection lab.
3. Actively participate in virtual dissections of the [cow eye](#), [sheep heart](#), [sheep brain](#) and [fetal pig](#).
4. Identify rationale for animal dissection and how it can benefit human health.

Chemical Sciences Curriculum Track

High School Learning Objectives:

After completing this course, Scholars will be able to:

1. Compare different careers within the field of forensic science.
2. Demonstrate how to gather, process and document evidence found at a crime scene.
3. Conduct various lab investigations to analyze evidence.
4. Make connections between forensic science and chemistry.
5. Reconstruct events using evidence in order to solve a crime.

Middle School Learning Objectives:

At the conclusion of the Chemical Sciences curriculum, Scholars will be able to:

1. Verbalize 5 common safety rules when working in the lab and with food.
2. Define the difference between good and bad bacteria.
3. Actively participate in the food science curriculum lab.
4. Identify the relationship between food science, healthy behaviors, and cancer prevention.

Physical Sciences and Engineering Design I/II Curriculum Tracks

High School Learning Objectives:

After completing this course in Physical Sciences and Engineering Design II, Scholars will be able to:

1. Develop strategies and processes that can be used to demonstrate effective problem solving.
2. Design an app that inputs, outputs, stores, and processes information in order to solve a problem.
3. Analyze feedback to improve a computing artifact.
4. Develop a personal webpage/digital artifact.
5. Create programmatic images, animations, interactive art, and games in Studio Code's Game Lab.
6. Prototype technological solutions to a problem both on paper and in Studio Code's App Lab.
7. Analyze user feedback to make improvements to a design.
8. Explain how different systems are used to represent information in a computer.
9. Evaluate collections of data gathered from a computer to solve problems.
10. Develop programs that utilize the same hardware inputs and outputs found in modern smart technology.
11. Experiment with the Adafruit Circuit Playground to innovate their own design.
12. Apply knowledge from learning modules to develop an app that addresses a health concern within their community.

Middle School Learning Objectives:

At the conclusion of the Physical Sciences and Engineering Design I curriculum, Scholars will be able to:

1. Explain programming and give examples.
2. Apply basic engineering concepts to design automated medical devices.

3. *Explain the reasons for their selected design.*
4. *Summarize the problem, solution, and future recommendations in an oral presentation.*

STEM EXPO

Learning Objectives as middle and high school Scholars work towards the STEM Expo:

1. *Scholars will be able to (SWBAT) find and determine credible online sources.*
2. *SWBAT identify what pieces of information are most relevant to their research proposal.*
3. *SWBAT apply the scientific method (purpose, hypothesis, procedure, data, evidence, conclusion, etc.) to their research.*
4. *SWBAT internalize and present their research proposals with confidence.*

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