Common Core Standards:

Literacy in Science & Technical Subjects Grade 6-12

Key Ideas and Details:
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Craft and Structure:
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to that grade level’s texts and topics.

Integration of Knowledge and Ideas:
7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

High School Geometry

Similarity, Right Triangles, and Trigonometry
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

11. Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Next Generation Science Standards

Middle School Physical Science
• MS-PS1-1 Develop models to describe the atomic composition of simple molecules and extended structures.

High School Life Science
• HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
Common Career Technical Core

Law, Public Safety, Corrections & Security Career Cluster® (LW)

Law Enforcement Services Career Pathway [LW-ENF]

12. Demonstrate the procedures to properly protect, document and process the crime scene and all related evidence.

Virginia Standards of Learning (SOL)

6th Grade Science
1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
   a) observations are made involving fine discrimination between similar objects and organisms; h) data are analyzed and communicated through graphical representation;
   i) models and simulations are designed and used to illustrate & explain phenomena and systems
   j) current applications are used to reinforce science concepts.

Life Science (Grade 7)
LS.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
   b) a classification system is developed based on multiple attributes;
   d) models and simulations are constructed and used to illustrate & explain phenomena
   j) current applications are used to reinforce life science concepts

LS.12 The student will investigate and understand that organisms reproduce and transmit genetic information to new generations. Key concepts include
   b) the function of genes and chromosomes;

Physical Science (Grade 8)
PS.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
   a) chemicals and equipment are used safely;
   j) valid conclusions are made after analyzing data;
   k) research methods are used to investigate practical problems and questions;
   m) models and simulations are constructed & used to illustrate and explain phenomena
   n) current applications of physical science concepts are used.

Curriculum Standards
DNA & Blood Pattern Analysis Workshop
Biology

BIO.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which
a) chemicals and equipment are used in a safe manner;
b) appropriate technology including computers, graphing calculators, and probeware, is used for gathering and analyzing data, communicating results, modeling concepts, and simulating experimental conditions;
c) current applications of biological concepts are used.

BIO.5 The student will investigate and understand common mechanisms of inheritance and protein synthesis. Key concepts include
a) genetic variation;
b) the structure, function, and replication of nucleic acids;
c) exploration of the impact of DNA technologies.

Virginia Career and Technical Education Competencies

Forensic Technology

61. Describe how DNA technology has affected criminal justice.
62. Describe the extraction and isolation of DNA from living cells.
63. Describe the technologies used in identifying and analyzing DNA from a crime scene.
64. Interpret the results of DNA analysis.
91. Describe the types of blood-spatter patterns.
92. Conduct a blood spatter analysis to re-create a violent event.