

Medical Laboratory Science: Middle School

Foundational Standards	<ol style="list-style-type: none">1 Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces. F.12 Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork. F.23 Explore the range of careers available in the field and investigate their educational requirements and demonstrate job-seeking skills including resume-writing and interviewing. F.34 Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway. F.45 Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork. F.56 Demonstrate effective infection control techniques as defined by the Centers for Disease Control and Prevention (CDC) and The Joint Commission guidelines. F.6
Laboratory Terminology	<ol style="list-style-type: none">1 Identify and explain common medical terms and abbreviations used in the laboratory setting. 1
Laboratory Skills	<ol style="list-style-type: none">2 Identify commonly used laboratory equipment and explain how each item is used. 2<ol style="list-style-type: none">Perform basic technical skills following laboratory protocol. 2.APrepare solutions of defined concentrations. 2.B
Laboratory Math	<ol style="list-style-type: none">3 Perform basic mathematical calculations related to the composition of solutions, weights, and measurements used in the medical laboratory. 3<ol style="list-style-type: none">Convert standard weights, measurements, and volumes to metric measurements commonly used in a healthcare setting. 3.AExpress time using the 24-hour time format as it applies to the healthcare industry. 3.B

Hematology	4 Identify red blood cells, white blood cells, plasma, and platelets and explain the function of each in maintaining hemostasis. 4
Immunology	5 Identify components of the immune system and explain their functions. 5
Genetics and Cell Biology	6 Describe key cellular structures and explain their respective functions. 6 <ul style="list-style-type: none">a Describe the structure and function of deoxyribonucleic acid (DNA) and explain its use in DNA fingerprinting and genetic technology. 6.Ab Explain the significance of Mendel's work to the development of modern genetics, including the laws of segregation and independent assortment. 6.Bc Compare and contrast ionic, hydrogen, covalent, and metallic bonds. 6.C
Microbiology and Parasitology	7 Differentiate among common microbes, including bacteria, viruses, fungi, and protozoans. 7 <ul style="list-style-type: none">a Explain how microbes cause the development and spread of infectious diseases. 7.Ab Explain how the immune system responds when a foreign microbe enters the body. 7.B