

Inquiry Investigations™
Human Biology and Health Issues MODULE - 1287211
Grades: 7-10

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Massachusetts Curriculum Frameworks
Science
Grade 7

DOMAIN / GENERAL STANDARD	MA.2. Life Science	
LEARNING STANDARD / OUTCOME	2.2.	<p>Structure and Function of Cells: Recognize that all organisms are composed of cells, and that many organisms are single-celled (unicellular), e.g., bacteria, yeast. In these single-celled organisms, one cell must carry out all of the basic functions of life.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1:

		<p>Learning How Pollutants Accumulate in the Lungs</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine
LEARNING STANDARD / OUTCOME	2.3.	<p>Structure and Function of Cells: Compare and contrast plant and animal cells, including major organelles (cell membrane, cell wall, nucleus, cytoplasm, chloroplasts, mitochondria, vacuoles).</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.4.	<p>Structure and Function of Cells: Recognize that within cells, many of the basic functions of organisms (e.g., extracting energy from food and getting rid of waste) are carried out. The way in which cells function is similar in all living organisms.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.5.	<p>Systems in Living Things: Describe the hierarchical organization of multicellular organisms from cells to tissues to organs to systems to organisms.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection

		<ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.6.	<p>Systems in Living Things: Identify the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, excretion, protection from disease, and movement, control, and coordination) and describe ways that these systems interact with each other.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Teacher Resource CD: The Human Machine
DOMAIN / GENERAL STANDARD	MA.3. Physical Sciences	

LEARNING STANDARD / OUTCOME	3.5.	<p>Elements, Compounds, and Mixtures: Recognize that there are more than 100 elements that combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content
LEARNING STANDARD / OUTCOME	3.7.	<p>Elements, Compounds, and Mixtures: Give basic examples of elements and compounds.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content
LEARNING STANDARD / OUTCOME	3.8.	<p>Elements, Compounds, and Mixtures: Differentiate between mixtures and pure substances.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.4. Technology/Engineering	
LEARNING STANDARD / OUTCOME	4.2.	<p>Materials, Tools, and Machines: Identify and explain appropriate measuring tools, hand tools, and power tools used to hold, lift, carry, fasten, and separate, and explain their safe and proper use.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A

		<p>Closer Look at Blood</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Virtual Laboratory: Identifying Human Tissues
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Massachusetts Curriculum Frameworks
Science
Grade 8

DOMAIN / GENERAL STANDARD	MA.2. Life Science
LEARNING STANDARD / OUTCOME	<p>2.2. Structure and Function of Cells: Recognize that all organisms are composed of cells, and that many organisms are single-celled (unicellular), e.g., bacteria, yeast. In these single-celled organisms, one cell must carry out all of the basic functions of life.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities

		<ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine
LEARNING STANDARD / OUTCOME	2.3.	<p>Structure and Function of Cells: Compare and contrast plant and animal cells, including major organelles (cell membrane, cell wall, nucleus, cytoplasm, chloroplasts, mitochondria, vacuoles).</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.4.	<p>Structure and Function of Cells: Recognize that within cells, many of the basic functions of organisms (e.g., extracting energy from food and getting rid of waste) are carried out. The way in which cells function is similar in all living organisms.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology

		<ul style="list-style-type: none"> • Virtual Laboratory: Identifying Human Tissues
<p>LEARNING STANDARD / OUTCOME</p>	<p>2.5.</p>	<p>Systems in Living Things: Describe the hierarchical organization of multicellular organisms from cells to tissues to organs to systems to organisms.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision

		<ul style="list-style-type: none"> • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.6.	<p>Systems in Living Things: Identify the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, excretion, protection from disease, and movement, control, and coordination) and describe ways that these systems interact with each other.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Teacher Resource CD: The Human Machine
DOMAIN / GENERAL STANDARD	MA.3.	Physical Sciences
LEARNING STANDARD / OUTCOME	3.5.	<p>Elements, Compounds, and Mixtures: Recognize that there are more than 100 elements that combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content
LEARNING STANDARD / OUTCOME	3.7.	<p>Elements, Compounds, and Mixtures: Give basic examples of elements and compounds.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content
LEARNING STANDARD / OUTCOME	3.8.	<p>Elements, Compounds, and Mixtures: Differentiate between mixtures and pure substances.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.4.	Technology/Engineering
LEARNING STANDARD / OUTCOME	4.2.	<p>Materials, Tools, and Machines: Identify and explain appropriate measuring tools, hand tools, and power tools used to hold, lift, carry, fasten, and separate, and explain their safe and proper use.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold

		<ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine • Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Virtual Laboratory: Identifying Human Tissues
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Massachusetts Curriculum Frameworks
 Science
 Grade 9

DOMAIN / GENERAL STANDARD	MA.B.1.	Biology: The Chemistry of Life: Chemical elements form organic molecules that interact to perform the basic functions of life.
LEARNING STANDARD / OUTCOME	1.1.	<p>Recognize that biological organisms are composed primarily of very few elements. The six most common are C, H, N, O, P, S.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 5 Activity 1:

		<p>Testing for Food Nutrient Content</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples Teacher Resource CD: Human Physiology
LEARNING STANDARD / OUTCOME	1.2.	<p>Describe the basic molecular structures and primary functions of the four major categories of organic molecules (carbohydrates, lipids, proteins, and nucleic acids).</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples Teacher Resource CD: Human Physiology
DOMAIN / GENERAL STANDARD	MA.B.2.	<p>Biology: Cell Biology: Cells have specific structures and functions that make them distinctive. Processes in a cell can be classified broadly as growth, maintenance, and reproduction.</p>
LEARNING STANDARD / OUTCOME	2.1.	<p>Relate cell parts/organelles (plasma membrane, nuclear envelope, nucleus, nucleolus, cytoplasm, mitochondrion, endoplasmic reticulum, Golgi apparatus, lysosome, ribosome, vacuole, cell wall, chloroplast, cytoskeleton, centriole, cilium, flagellum, pseudopod) to their functions. Explain the role of cell membranes as a highly selective barrier (diffusion, osmosis, facilitated diffusion, and active transport).</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Teacher Resource CD: Human Physiology Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.8.	<p>Compare and contrast a virus and a cell in terms of genetic material and reproduction.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus Teacher Resource CD: Human Health Issues and Disease
DOMAIN / GENERAL STANDARD	MA.B.4.	<p>Biology: Anatomy and Physiology: There is a relationship between the organization of cells into tissues, and tissues into organs. The structure and function of organs determine their relationships within body systems of an organism. Homeostasis allows the body to perform its normal functions.</p>
LEARNING STANDARD / OUTCOME	4.1.	<p>Explain generally how the digestive system (mouth, pharynx, esophagus, stomach, small and large intestines, rectum) converts macromolecules from food into smaller molecules that can be used by cells for energy and for repair and growth.</p>

		<ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.2.	<p>Explain how the circulatory system (heart, arteries, veins, capillaries, red blood cells) transports nutrients and oxygen to cells and removes cell wastes. Describe how the kidneys and the liver are closely associated with the circulatory system as they perform the excretory function of removing waste from the blood. Recognize that kidneys remove nitrogenous wastes, and the liver removes many toxic compounds from blood.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.3.	<p>Explain how the respiratory system (nose, pharynx, larynx, trachea, lungs, alveoli) provides exchange of oxygen and carbon dioxide.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.4.	<p>Explain how the nervous system (brain, spinal cord, sensory neurons, motor neurons) mediates communication between different parts of the body and the body's interactions with the environment. Identify the basic unit of the nervous system, the neuron, and explain generally how it works.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is

		<p>There a Hole in Your Hand?</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time • Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.5.	<p>Explain how the muscular/skeletal system (skeletal, smooth and cardiac muscle, bones, cartilage, ligaments, tendons) works with other systems to support and allow for movement. Recognize that bones produce both red and white blood cells.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.6.	<p>Recognize that the sexual reproductive system allows organisms to produce offspring that receive half of their genetic information from their mother and half from their father and that sexually produced offspring resemble, but are not identical to, either of their parents.</p> <ul style="list-style-type: none"> • Teacher Resource CD: The Human Machine
LEARNING STANDARD / OUTCOME	4.7.	<p>Recognize that communication between cells is required for coordination of body functions. The nerves communicate with electrochemical signals, hormones circulate through the blood, and some cells produce signals to communicate only with nearby cells.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5:

		<p>Typographic Illusions</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions Teacher Resource CD: Human Health Issues and Disease Teacher Resource CD: Human Physiology Teacher Resource CD: The Human Machine Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.8.	<p>Recognize that the body's systems interact to maintain homeostasis. Describe the basic function of a physiological feedback loop.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions Teacher Resource CD: Human Health Issues and Disease Teacher Resource CD: Human Physiology Teacher Resource CD: The Human Machine
DOMAIN / GENERAL STANDARD	MA.C.1.	Chemistry: Properties of Matter: Physical and chemical properties reflect the nature of the interactions between molecules or atoms and can be used to classify and describe matter.
LEARNING STANDARD / OUTCOME	1.2.	<p>Explain the difference between pure substances (elements and compounds) and mixtures. Differentiate between heterogeneous and homogeneous mixtures.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.C.7.	Chemistry: Solutions, Rates of Reaction, and Equilibrium: Solids, liquids, and gases dissolve to form solutions. Rates of reaction and chemical equilibrium are dynamic processes that are significant in many systems (biological, ecological, and geological).
LEARNING STANDARD / OUTCOME	7.1.	<p>Describe the process by which solutes dissolve in solvents.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells
LEARNING STANDARD / OUTCOME	7.4.	<p>Compare and contrast qualitatively the properties of solutions and pure solvents (colligative properties such as boiling point and freezing point).</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL	MA.C.8.	Chemistry: Acids and Bases and Oxidation-Reduction Reactions: Acids and bases are important in numerous chemical processes that occur

STANDARD		around us, from industrial procedures to biological ones, from the laboratory to the environment. Oxidation-reduction reactions occur when one substance transfers electrons to another substance and constitutes a major class of chemical reactions.
LEARNING STANDARD / OUTCOME	8.2.	Relate hydrogen ion concentrations to the pH scale, and to acidic, basic, and neutral solutions. Compare and contrast the strength of various common acids and bases such as vinegar, baking soda, soap, and citrus juice. <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.P.4.	Physics: Waves: Waves carry energy from place to place without the transfer of matter.
LEARNING STANDARD / OUTCOME	4.1.	Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, and period) and explain the relationships among them. Recognize examples of simple harmonic motion. <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection

Massachusetts Curriculum Frameworks
Science
Grade 10

DOMAIN / GENERAL STANDARD	MA.B.1.	Biology: The Chemistry of Life: Chemical elements form organic molecules that interact to perform the basic functions of life.
LEARNING STANDARD / OUTCOME	1.1.	Recognize that biological organisms are composed primarily of very few elements. The six most common are C, H, N, O, P, S. <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples Teacher Resource CD: Human Physiology
LEARNING STANDARD / OUTCOME	1.2.	Describe the basic molecular structures and primary functions of the four major categories of organic molecules (carbohydrates, lipids, proteins, and nucleic acids). <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 3: Protein Test of Simulated Urine Samples Human Biology and Health Issues: Unit 2 Lab 7 Activity 4: Glucose Test of Simulated Urine Samples Teacher Resource CD: Human Physiology
DOMAIN / GENERAL STANDARD	MA.B.2.	Biology: Cell Biology: Cells have specific structures and functions that make them distinctive. Processes in a cell can be classified broadly as growth, maintenance, and reproduction.
LEARNING	2.1.	Relate cell parts/organelles (plasma membrane, nuclear envelope, nucleus,

STANDARD / OUTCOME		<p>nucleolus, cytoplasm, mitochondrion, endoplasmic reticulum, Golgi apparatus, lysosome, ribosome, vacuole, cell wall, chloroplast, cytoskeleton, centriole, cilium, flagellum, pseudopod) to their functions. Explain the role of cell membranes as a highly selective barrier (diffusion, osmosis, facilitated diffusion, and active transport).</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells • Human Biology and Health Issues: Unit 2 Lab 6 Activity 2: Exploring Transdermal Drug Delivery • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	2.8.	<p>Compare and contrast a virus and a cell in terms of genetic material and reproduction.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 3 Lab 9 Activity 1: Simulating the Transmission of the Ebola Virus • Teacher Resource CD: Human Health Issues and Disease
DOMAIN / GENERAL STANDARD	MA.B.4.	<p>Biology: Anatomy and Physiology: There is a relationship between the organization of cells into tissues, and tissues into organs. The structure and function of organs determine their relationships within body systems of an organism. Homeostasis allows the body to perform its normal functions.</p>
LEARNING STANDARD / OUTCOME	4.1.	<p>Explain generally how the digestive system (mouth, pharynx, esophagus, stomach, small and large intestines, rectum) converts macromolecules from food into smaller molecules that can be used by cells for energy and for repair and growth.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.2.	<p>Explain how the circulatory system (heart, arteries, veins, capillaries, red blood cells) transports nutrients and oxygen to cells and removes cell wastes. Describe how the kidneys and the liver are closely associated with the circulatory system as they perform the excretory function of removing waste from the blood. Recognize that kidneys remove nitrogenous wastes, and the liver removes many toxic compounds from blood.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 4 Activity 1: Determining ABO-Rh Blood Type • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine

		<ul style="list-style-type: none"> Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.3.	<p>Explain how the respiratory system (nose, pharynx, larynx, trachea, lungs, alveoli) provides exchange of oxygen and carbon dioxide.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions Human Biology and Health Issues: Unit 3 Lab 8 Activity 1: Learning How Pollutants Accumulate in the Lungs Teacher Resource CD: The Human Machine Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.4.	<p>Explain how the nervous system (brain, spinal cord, sensory neurons, motor neurons) mediates communication between different parts of the body and the body's interactions with the environment. Identify the basic unit of the nervous system, the neuron, and explain generally how it works.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions Human Biology and Health Issues: Unit 4 Lab 10 Activity 1: Measuring Reaction Time Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision Teacher Resource CD: Human Physiology Teacher Resource CD: The Human Machine Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.5.	<p>Explain how the muscular/skeletal system (skeletal, smooth and cardiac muscle, bones, cartilage, ligaments, tendons) works with other systems to support and allow for movement. Recognize that bones produce both red and white blood cells.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions

		<ul style="list-style-type: none"> • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.6.	<p>Recognize that the sexual reproductive system allows organisms to produce offspring that receive half of their genetic information from their mother and half from their father and that sexually produced offspring resemble, but are not identical to, either of their parents.</p> <ul style="list-style-type: none"> • Teacher Resource CD: The Human Machine
LEARNING STANDARD / OUTCOME	4.7.	<p>Recognize that communication between cells is required for coordination of body functions. The nerves communicate with electrochemical signals, hormones circulate through the blood, and some cells produce signals to communicate only with nearby cells.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Human Biology and Health Issues: Unit 1 Lab 2 Activity 1: Testing Taste Receptors in the Tongue • Human Biology and Health Issues: Unit 1 Lab 2 Activity 2: Thermoreceptors - Responding to Heat and Cold • Human Biology and Health Issues: Unit 1 Lab 2 Activity 3: Distribution and Sensitivity of Touch Receptors • Human Biology and Health Issues: Unit 1 Lab 2 Activity 4: Responding to Sound • Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection • Human Biology and Health Issues: Unit 1 Lab 3 Activity 2: Measuring Vision • Human Biology and Health Issues: Unit 1 Lab 3 Activity 3: Is There a Hole in Your Hand? • Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities • Human Biology and Health Issues: Unit 1 Lab 3 Activity 5: Typographic Illusions • Human Biology and Health Issues: Unit 1 Lab 3 Activity 6: Contrast and Color Illusions • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine • Virtual Laboratory: Identifying Human Tissues
LEARNING STANDARD / OUTCOME	4.8.	<p>Recognize that the body's systems interact to maintain homeostasis. Describe the basic function of a physiological feedback loop.</p> <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 1 Activity 1: Learning How Our Body is Organized and Functions • Teacher Resource CD: Human Health Issues and Disease • Teacher Resource CD: Human Physiology • Teacher Resource CD: The Human Machine
DOMAIN / GENERAL STANDARD	MA.C.1.	Chemistry: Properties of Matter: Physical and chemical properties reflect the nature of the interactions between molecules or atoms and can be used to classify and describe matter.

LEARNING STANDARD / OUTCOME	1.2.	<p>Explain the difference between pure substances (elements and compounds) and mixtures. Differentiate between heterogeneous and homogeneous mixtures.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.C.7.	Chemistry: Solutions, Rates of Reaction, and Equilibrium: Solids, liquids, and gases dissolve to form solutions. Rates of reaction and chemical equilibrium are dynamic processes that are significant in many systems (biological, ecological, and geological).
LEARNING STANDARD / OUTCOME	7.1.	<p>Describe the process by which solutes dissolve in solvents.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells
LEARNING STANDARD / OUTCOME	7.4.	<p>Compare and contrast qualitatively the properties of solutions and pure solvents (colligative properties such as boiling point and freezing point).</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells Human Biology and Health Issues: Unit 2 Lab 7 Activity 1: Modeling Kidney Function Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.C.8.	Chemistry: Acids and Bases and Oxidation-Reduction Reactions: Acids and bases are important in numerous chemical processes that occur around us, from industrial procedures to biological ones, from the laboratory to the environment. Oxidation-reduction reactions occur when one substance transfers electrons to another substance and constitutes a major class of chemical reactions.
LEARNING STANDARD / OUTCOME	8.2.	<p>Relate hydrogen ion concentrations to the pH scale, and to acidic, basic, and neutral solutions. Compare and contrast the strength of various common acids and bases such as vinegar, baking soda, soap, and citrus juice.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 7 Activity 2: Physical and Microscopic Characteristics of Urine
DOMAIN / GENERAL STANDARD	MA.P.4.	Physics: Waves: Waves carry energy from place to place without the transfer of matter.
LEARNING STANDARD / OUTCOME	4.1.	<p>Describe the measurable properties of waves (velocity, frequency, wavelength, amplitude, and period) and explain the relationships among them. Recognize examples of simple harmonic motion.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 3 Activity 1: Exploring the Eye-Brain Connection

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