

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

Frey Scientific
 80 Northwest Boulevard
 Nashua, NH 03063-4067
 1-800-225-3739
 www.freyscientific.com
 www.freyscientific.com/inquiryinvestigations

South Dakota Content Standards
Science
Grade 7

GOAL/STRAND	SD.7.N.	Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	7.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	7.N.2.1.	<p>Students are able to conduct scientific investigations using given procedures.</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

		<p>Activity 2: Exploring Transdermal Drug Delivery</p> <ul style="list-style-type: none"> • 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
STANDARD	7.N.2.2.	<p>Students describe and demonstrate various safety factors associated with different types of scientific activity.</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

		<ul style="list-style-type: none"> • 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
STANDARD	7.N.2.3.	<p>Students analyze the benefits and potential of scientific investigations.</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?

		<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 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
GOAL/STRAND	SD.7.L.	Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	7.L.1.	Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
STANDARD	7.L.1.1.	Students are able to identify basic cell organelles and their functions. <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

		<ul style="list-style-type: none"> Teacher Resource CD: Human Physiology Virtual Laboratory: Identifying Human Tissues
STANDARD	7.L.1.9.	<p>Students are able to identify and explain the function of the human systems and the organs within each system.</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
STANDARD	7.L.1.12.	<p>Students describe the levels of organization within 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 Teacher Resource CD: The Human Machine

South Dakota Content Standards

Science

Grade 8

GOAL/STRAND	SD.8.N.	Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	8.N.1.	Understand the nature and origin of scientific knowledge.
STANDARD	8.N.1.1.	<p>Students are able to differentiate among facts, predictions, theory, and law/principles in scientific investigations.</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

		<ul style="list-style-type: none"> 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
GOAL/STRAND	SD.8.N.	Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	8.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	8.N.2.1.	<p>Students are able to design a replicable scientific investigation.</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

		<ul style="list-style-type: none"> • 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
STANDARD	8.N.2.2.	<p>Students evaluate the benefits and potential of scientific investigations.</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

		<p>Activity 2: Thermoreceptors - Responding to Heat and Cold</p> <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
GOAL/STRAND	SD.8.P.	Physical Science: Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.

INDICATOR/BENCHMARK	8.P.1.	Describe structures and properties of, and changes in, matter.
STANDARD	8.P.1.1.	<p>Students are able to classify matter as elements, compounds, or 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
STANDARD	8.P.1.2.	<p>Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 5 Activity 1: Testing for Food Nutrient Content
GOAL/STRAND	SD.8.L.	Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	8.L.1.	<p>Understand the fundamental structures, functions, classifications, and mechanisms found in living things.</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

		<p>Activity 1: Testing for Food Nutrient Content</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 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
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**South Dakota Content Standards
Science
Grade 9**

GOAL/STRAND	SD.9-12.N.	Core: Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	9-12.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	9-12.N.2.1.	<p>Students are able to apply science process skills to design and conduct student investigations.</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

		<ul style="list-style-type: none"> • 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
STANDARD	9-12.N.2.2.	<p>Students are able to practice safe and effective laboratory techniques.</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"> Virtual Laboratory: Identifying Human Tissues
GOAL/STRAND	SD.9-12.L.	Core: Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	9-12.L.1.	Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
STANDARD	9-12.L.1.1.	<p>Students are able to relate cellular functions and processes to specialized structures within cells.</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
GOAL/STRAND	SD.9-12.N.	Advanced: Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	9-12.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	9-12.N.2.2A.	<p>Students are able to use statistical analysis of data to evaluate the validity of results.</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 Human Biology and Health Issues: Unit 4 Lab 10 Activity 2: Measuring Range of Vision
STANDARD	9-12.N.2.3A.	<p>Students are able to demonstrate correct precision in measurements and calculations.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood 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
GOAL/STRAND	SD.9-12.P.	Advanced: Physical Science: Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.
INDICATOR/BENCHMARK	9-12.P.1.	Describe structures and properties of, and changes in matter
STANDARD	9-12.P.1.4A.	<p>Students are able to describe factors that affect solution interactions.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 2 Lab 6

		<p>Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells</p> <ul style="list-style-type: none"> 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
GOAL/STRAND	SD.9-12.P.	Advanced: Physical Science: Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.
INDICATOR/BENCHMARK	9-12.P.3.	Analyze interactions of energy and matter.
STANDARD	9-12.P.3.1A.	<p>Students are able to explain wave behavior in the fundamental processes of reflection, refraction, diffraction, interference, resonance, and image formation.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities
GOAL/STRAND	SD.9-12.L.	Advanced: Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	9-12.L.1.	Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
STANDARD	9-12.L.1.3A.	<p>Students are able to explain how gene expression regulates cell growth and differentiation.</p> <ul style="list-style-type: none"> Teacher Resource CD: The Human Machine Virtual Laboratory: Identifying Human Tissues

**South Dakota Content Standards
Science
Grade 10**

GOAL/STRAND	SD.9-12.N.	Core: Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	9-12.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	9-12.N.2.1.	<p>Students are able to apply science process skills to design and conduct student investigations.</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

		<p>Activity 1: Exploring the Eye-Brain Connection</p> <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 • Virtual Laboratory: Identifying Human Tissues
STANDARD	9-12.N.2.2.	<p>Students are able to practice safe and effective laboratory techniques.</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

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| | | <ul style="list-style-type: none"> • 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 • Virtual Laboratory: Identifying Human Tissues |
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GOAL/STRAND	SD.9-12.L.	Core: Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	9-12.L.1.	Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
STANDARD	9-12.L.1.1.	Students are able to relate cellular functions and processes to specialized structures within cells. <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
GOAL/STRAND	SD.9-12.N.	Advanced: Nature of Science: Students will explore, evaluate, and communicate personal and scientific investigations to understand the nature of science.
INDICATOR/BENCHMARK	9-12.N.2.	Apply the skills necessary to conduct scientific investigations.
STANDARD	9-12.N.2.2A.	Students are able to use statistical analysis of data to evaluate the validity of results. <ul style="list-style-type: none"> • 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 2: Measuring Range of Vision
STANDARD	9-12.N.2.3A.	Students are able to demonstrate correct precision in measurements and calculations. <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 1 Lab 4 Activity 2: A Closer Look at Blood • 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
GOAL/STRAND	SD.9-12.P.	Advanced: Physical Science: Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.
INDICATOR/BENCHMARK	9-12.P.1.	Describe structures and properties of, and changes in matter
STANDARD	9-12.P.1.4A.	Students are able to describe factors that affect solution interactions. <ul style="list-style-type: none"> • Human Biology and Health Issues: Unit 2 Lab 6 Activity 1: Demonstrating Selective Permeability in Simulated Skin Cells

		<ul style="list-style-type: none"> 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
GOAL/STRAND	SD.9-12.P.	Advanced: Physical Science: Students will use appropriate scientific models to describe and quantify the nature and interactions of matter and energy.
INDICATOR/BENCHMARK	9-12.P.3.	Analyze interactions of energy and matter.
STANDARD	9-12.P.3.1A.	<p>Students are able to explain wave behavior in the fundamental processes of reflection, refraction, diffraction, interference, resonance, and image formation.</p> <ul style="list-style-type: none"> Human Biology and Health Issues: Unit 1 Lab 3 Activity 4: Photographic Ambiguities
GOAL/STRAND	SD.9-12.L.	Advanced: Life Science: Students will describe structures and attributes of living things, processes of life, and interaction with each other and the environment.
INDICATOR/BENCHMARK	9-12.L.1.	Understand the fundamental structures, functions, classifications, and mechanisms found in living things.
STANDARD	9-12.L.1.3A.	<p>Students are able to explain how gene expression regulates cell growth and differentiation.</p> <ul style="list-style-type: none"> Teacher Resource CD: The Human Machine Virtual Laboratory: Identifying Human Tissues

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