

**Inquiry Investigations™**  
**Genetics and Inheritance MODULE - 1282831**  
**Grades: 7-10**

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**Hawaii Content and Performance Standards**  
**Science**  
**Grade 7**

CONTENT STANDARD / COURSE	HI.SC.7.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.1.1.	<p>Scientific Inquiry: Design and safely conduct a scientific investigation to answer a question or test a hypothesis</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> </ul>

		<ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>CONTENT STANDARD / PERFORMANCE INDICATOR</p>	<p>SC.7.1.3.</p>	<p>Scientific Knowledge: Explain the need to revise conclusions and explanations based on new scientific evidence</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5:</li> </ul>

		<p>Predicting Genetic Disease</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.7.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.4.2.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the basic structure and function of various types of cells</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.4.3.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the levels of organization in organisms</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.7.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.5.2.	<p>Heredity: Describe how an inherited trait can be determined by one or more genes which are found on chromosomes</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> </ul>

		<ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: Genetics and Inheritance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.5.4.	<p>Unity and Diversity: Analyze how organisms' body structures contribute to their ability to survive and reproduce</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.5.6.	<p>Unity and Diversity: Explain why variation(s) in a species' gene pool contributes to its survival in a constantly changing environment</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Teacher Resource CD: Genetics and Inheritance</li> </ul>

Hawaii Content and Performance Standards

Science

Grade 8

COURSE		invent, and investigate using the skills necessary to engage in the scientific process
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.1.1.	<p>Scientific Inquiry: Determine the link(s) between evidence and the conclusion(s) of an investigation</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of</li> </ul>

		Independent Assortment
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.1.2.	<p>Scientific Inquiry: Communicate the significant components of the experimental design and results of a scientific investigation</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of</li> </ul>

		Independent Assortment
CONTENT STANDARD / COURSE	HI.SC.8.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.2.2.	<p>Unifying Concepts and Themes: Describe how scale and mathematical models can be used to support and explain scientific data</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>

**Hawaii Content and Performance Standards  
Science  
Grade 9**

CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.6.	Physical, Earth and Space Science: NATURE OF MATTER AND ENERGY: Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.10.	<p>Nature of Matter: Explain how atoms bond using valence electrons</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1:</li> </ul>

		Analyze Genetic Origins through DNA Fingerprinting
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a</li> </ul>

		<p>Population</p> <ul style="list-style-type: none"> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> </ul>

		<ul style="list-style-type: none"> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of</li> </ul>

		<p>Dominance</p> <ul style="list-style-type: none"> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.1.	<p>Cells, Tissues, Organs, and Organ Systems: Describe different cell parts and their functions</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.3.	<p>Cells, Tissues, Organs, and Organ Systems: Differentiate between the processes of mitosis and meiosis</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.5.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the components and functions of a variety of macromolecules active in biological systems</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.3.	<p>Unity and Diversity: Explain the structural properties of DNA and the role of DNA in heredity and protein synthesis</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2:</li> </ul>

		<p>Analyze Genetic Origins through DNA Sequencing</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.4.	<p>Unity and Diversity: Explain how Mendel's laws of heredity can be used to determine the traits of possible offspring</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.5.	<p>Unity and Diversity: Explain chromosomal mutations, their possible causes, and their effects on genetic variation</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Teacher Resource CD: Genetics and Inheritance</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.ES.	Earth Space Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ES.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.1.	<p>Science, Technology, and Society Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.4.	<p>Science, Technology, and Society: Describe technologies used to collect information about the universe</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> </ul>

		<ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.2.1.	Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society

		<ul style="list-style-type: none"> <li>• Teacher Resource CD: Genetics and Heredity</li> <li>• Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Genetics and Heredity</li> <li>• Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2:</li> </ul>

		<p>Analyze Genetic Origins through DNA Sequencing</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> </ul>

		<ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3:</li> </ul>

		<p>Understanding the Human Genome</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> </ul>

		<ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.2.1.	Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.2.1.	Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>

### Hawaii Content and Performance Standards

#### Science

#### Grade 10

CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.1.	Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD /	SC.PS.6.	Physical, Earth and Space Science: NATURE OF MATTER AND ENERGY:

PERFORMANCE INDICATOR		Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.10.	<p>Nature of Matter: Explain how atoms bond using valence electrons</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> </ul>

		<ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3:</li> </ul>

		<p>Understanding the Human Genome</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> </ul>

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4:</li> </ul>

		<p>Diagnosing Genetic Disease</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.1.	<p>Cells, Tissues, Organs, and Organ Systems: Describe different cell parts and their functions</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.3.	<p>Cells, Tissues, Organs, and Organ Systems: Differentiate between the processes of mitosis and meiosis</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.5.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the components and functions of a variety of macromolecules active in biological systems</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: The DNA Connection</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
PERFORMANCE INDICATOR / GRADE	SC.BS.5.3.	Unity and Diversity: Explain the structural properties of DNA and the role of

LEVEL EXPECTATION		<p>DNA in heredity and protein synthesis</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.4.	<p>Unity and Diversity: Explain how Mendel's laws of heredity can be used to determine the traits of possible offspring</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.5.	<p>Unity and Diversity: Explain chromosomal mutations, their possible causes, and their effects on genetic variation</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Teacher Resource CD: Genetics and Inheritance</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.ES.	Earth Space Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ES.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated

<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.1.</p>	<p>Science, Technology, and Society Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Genetics and Heredity</li> <li>• Teacher Resource CD: The DNA Connection</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.4.</p>	<p>Science, Technology, and Society: Describe technologies used to collect information about the universe</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.PH.</b>	<b>Physics</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.PH.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.PH.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.CH.</b>	<b>Chemistry</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.CH.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.CH.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.1.</b>	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.1.2.</b>	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> </ul>

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1:</li> </ul>

		<p>Determine the Frequency of Common Human Traits in a Population</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a</li> </ul>

		<p>Population</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>• Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>• Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>• Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 1: Learning About Base Pairs</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 2: Modeling DNA Replication</li> <li>• Genetics and Inheritance: Unit 1 Lab 1 Activity 3: Exploring DNA's Structure - the Double Helix</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 1: Applying the Laws of Chance to Genetics</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 2: Modeling a Genetic Cross to Demonstrate the Law of Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 3: Modeling a Genetic Cross to Demonstrate the Law of Incomplete Dominance</li> <li>• Genetics and Inheritance: Unit 2 Lab 2 Activity 4: Modeling a Dihybrid Cross to Demonstrate the Law of Independent Assortment</li> <li>• Genetics and Inheritance: Unit 2 Lab 3 Activity 1: Simulating Meiosis and Fertilization</li> <li>• Genetics and Inheritance: Unit 3 Lab 4 Activity 1: Determine the Frequency of Common Human Traits in a Population</li> </ul>

		<ul style="list-style-type: none"> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 2: Taste Tests and the Hardy-Weinberg Principle</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 3: Constructing a Family Pedigree</li> <li>Genetics and Inheritance: Unit 3 Lab 4 Activity 4: Using Punnett Squares to Determine Genotypes and Phenotypes</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 1: Analyze Genetic Origins through DNA Fingerprinting</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 2: Analyze Genetic Origins through DNA Sequencing</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 3: Understanding the Human Genome</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 4: Diagnosing Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 5 Activity 5: Predicting Genetic Disease</li> <li>Genetics and Inheritance: Unit 3 Lab 6 Activity 1: Examining Human Variation in Blood</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 1: Case of the Royal Mystery</li> <li>Genetics and Inheritance: Unit 4 Lab 7 Activity 2: Calculating the Frequency of Human Traits in a Population</li> <li>Virtual Laboratory: Mendelian Genetics Law of Dominance</li> <li>Virtual Laboratory: Mendelian Genetics Law of Independent Assortment</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.2.1.</b>	Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.MS.</b>	<b>Marine Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.MS.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.MS.2.1.</b>	Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society <ul style="list-style-type: none"> <li>Teacher Resource CD: Genetics and Heredity</li> <li>Teacher Resource CD: The DNA Connection</li> </ul>