

**Main Criteria:** Cogent Education's Interactive Cases  
**Secondary Criteria:** Montana Content Standards  
**Subject:** Science  
**Grades:** 9, 10, 11, 12



Title	Common Among States	Montana Content Standards	Montana Content Standards	Montana Content Standards	Montana Content Standards
Action Potential -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation</p> <p>S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors</p> <p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p>

<p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>
<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p>	<p>S3.1.gr9-12.E. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>

		<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
Cellular Respiration -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation</p>

<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors</p> <p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.F. - Identify possible sources of error</p>
<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.F. - Identify possible sources of error</p>
<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p>
<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.B. - Identify relationship between data trends and scientific concepts</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>
<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>
<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.F. - Describe and model the conversion of stored energy in organic molecules into usable cellular energy (ATP)</p>
<p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p>	<p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p>	<p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p>	<p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.F. - Describe and model the conversion of stored energy in organic molecules into usable cellular energy (ATP)</p>

<p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.  RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy). RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.  CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects  WHST.9-10.1. - Write arguments focused on discipline-specific content. WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.  WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.  WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.  WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.  WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.  WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.  WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.  RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy). RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.  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WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.  WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.  WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.  WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.  WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently. CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects WHST.11-12.1. - Write arguments focused on discipline-specific content.  WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.  WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.  WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.  WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.  WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.  WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p>	<p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently. CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects WHST.11-12.1. - Write arguments focused on discipline-specific content.  WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.  WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.  WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.  WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p>
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		<p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
Diffusion -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p>

<p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p> <p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p>	<p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - 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Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>	<p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p> <p>S3.2.gr9-12.C. - Classify, compare and contrast various organisms as a heterotroph or autotroph</p> <p>S3.2.gr9-12.K. - Describe the stages of mitosis in plants and animals</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
Filtration -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p>



S1.1.gr9-12.B. - Identify a testable question	S1.1.gr9-12.B. - Identify a testable question	S1.1.gr9-12.B. - Identify a testable question	S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data
S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data	S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data	S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data	S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation
S1.1.gr9-12.E. - Write a testable question	S1.1.gr9-12.E. - Write a testable question	S1.1.gr9-12.E. - Write a testable question	S1.1.gr9-12.F. - Generate a valid hypothesis
S1.1.gr9-12.F. - Generate a valid hypothesis	S1.1.gr9-12.F. - Generate a valid hypothesis	S1.1.gr9-12.F. - Generate a valid hypothesis	S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis
S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis	S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis	S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis	S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.
S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.	S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.	S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.	S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation
S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation	S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation	S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation	S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation
S1.1.gr9-12.K. - Formulate a sequential plan for an investigation	S1.1.gr9-12.K. - Formulate a sequential plan for an investigation	S1.1.gr9-12.K. - Formulate a sequential plan for an investigation	S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation
S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation	S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation	S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation	S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation
S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy	S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy	S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy	S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods
S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods	S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods	S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods	S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors
S1.2.gr9-12.D. - Apply appropriate mathematical analysis	S1.2.gr9-12.D. - Apply appropriate mathematical analysis	S1.2.gr9-12.D. - Apply appropriate mathematical analysis	S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)
S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)	S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)	S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)	S1.2.gr9-12.F. - Identify possible sources of error
S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis	S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis	S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis	S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)
S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)	S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)	S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)	S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)
S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)	S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)	S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)	S1.3.gr9-12.B. - Identify relationship between data trends and scientific concepts
S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results	S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results	S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results	S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology
S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology	S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology	S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology	S1.3.gr9-12.E. - Justify and defend conclusions based on evidence
S1.3.gr9-12.E. - Justify and defend conclusions based on evidence	S1.3.gr9-12.E. - Justify and defend conclusions based on evidence	S1.3.gr9-12.E. - Justify and defend conclusions based on evidence	S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation
S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation	S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation	S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation	S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)
S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)	S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)	S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)	S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts
S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts	S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts	S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts	S1.4.gr9-12.B. - Explain why models are used to express scientific concepts
S1.4.gr9-12.B. - Explain why models are used to express scientific concepts	S1.4.gr9-12.B. - Explain why models are used to express scientific concepts	S1.4.gr9-12.B. - Explain why models are used to express scientific concepts	S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts
S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts	S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts	S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts	S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation
S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation	S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation	S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation	S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation
MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation

<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>
<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>
<p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p>	<p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p>	<p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p>	<p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>
<p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p>	<p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p>	<p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>	<p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p>
<p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>	<p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>
<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p>	<p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p>	<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
<p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p>	<p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p>	<p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>
<p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>
<p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>
<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p>
<p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>
<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p>
<p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>

		<p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
<b>Membrane Potential</b>	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - 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Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.J. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation</p> <p>S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p>

<p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>
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	<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
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<p><b>Membrane Transport - MT</b></p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p>
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<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - 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Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>
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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
Nitrogen Cycle -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>



<p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p> <p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p>	<p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p> <p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p>	<p>S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation</p> <p>S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors</p> <p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p> <p>S3.2.gr9-12.C. - Classify, compare and contrast various organisms as a heterotroph or autotroph</p> <p>S3.2.gr9-12.F. - Describe and model the conversion of stored energy in organic molecules into usable cellular energy (ATP)</p>
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<p>S3.4. - Predict and model the interaction of biotic and abiotic factors that affect populations through natural selection, and explain how this contributes to the evolution of species over time</p> <p>S3.4.gr9-12.C. - Explain biogeochemical cycles</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.B. - Analyze how the development and/or acceptance of this example was influenced by various factors</p> <p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.1. - Analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples</p> <p>S6.1.gr9-12.B. - Analyze the positive and negative impacts of past, present, and future science and technological advances</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p> <p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.3. - Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>S3.4. - Predict and model the interaction of biotic and abiotic factors that affect populations through natural selection, and explain how this contributes to the evolution of species over time</p> <p>S3.4.gr9-12.C. - Explain biogeochemical cycles</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.B. - Analyze how the development and/or acceptance of this example was influenced by various factors</p> <p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.1. - Analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples</p> <p>S6.1.gr9-12.B. - Analyze the positive and negative impacts of past, present, and future science and technological advances</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p> <p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.3. - Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>S3.4. - Predict and model the interaction of biotic and abiotic factors that affect populations through natural selection, and explain how this contributes to the evolution of species over time</p> <p>S3.4.gr9-12.C. - Explain biogeochemical cycles</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - 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Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>S3.4. - Predict and model the interaction of biotic and abiotic factors that affect populations through natural selection, and explain how this contributes to the evolution of species over time</p> <p>S3.4.gr9-12.D. - Recognize that the sun is the ultimate source of energy in MOST ecosystems</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.C. - Justify the analysis using cited peer-reviewed sources</p> <p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p> <p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.2.gr9-12.D. - Summarize the process of the advancement of scientific knowledge</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p>
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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; 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Osmosis -	MT	MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.	MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.	MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.	MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.

<p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>	<p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p> <p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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(e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p>
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<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>
<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p>
<p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle</p>	<p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle</p>	<p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle</p>	<p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.C. - Classify, compare and contrast various organisms as a heterotroph or autotroph</p> <p>S3.2.gr9-12.K. - Describe the stages of mitosis in plants and animals</p>
<p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>	<p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p>
<p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p>	<p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p>	<p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p>	
<p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p>	<p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p>	<p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>	<p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p>
<p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>	<p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p>
<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p>	<p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p>
<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p>	<p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
<p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p>
			<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>

		<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
Photosynthesis -	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.D. - Distinguish the independent and dependent variables by examining a scientific experiment/investigation</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.J. - Use the independent and dependent variable to determine the materials, tools and techniques needed for an investigation</p>

<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>S1.1.gr9-12.L. - Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors</p> <p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.F. - Identify possible sources of error</p>
<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p> <p>S1.2.gr9-12.G. - Identify and interpret trends in data using graphical analysis</p>	<p>S1.2.gr9-12.F. - Identify possible sources of error</p>
<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.A. - Identify techniques used to review evidence (summary, graphical organizers, models)</p>
<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>	<p>S1.3.gr9-12.B. - Identify relationship between data trends and scientific concepts</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p>
<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>	<p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p>
<p>MT.S2. - Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.</p> <p>S2.3. - Describe the major features associated with chemical reactions, including (a) giving examples of reactions important to industry and living organisms, (b) energy changes associated with chemical changes, (c) classes of chemical reactions, (d) rates of reactions, and (e) the role of catalysts</p>	<p>MT.S2. - Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.</p> <p>S2.3. - Describe the major features associated with chemical reactions, including (a) giving examples of reactions important to industry and living organisms, (b) energy changes associated with chemical changes, (c) classes of chemical reactions, (d) rates of reactions, and (e) the role of catalysts</p>	<p>MT.S2. - Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.</p> <p>S2.3. - Describe the major features associated with chemical reactions, including (a) giving examples of reactions important to industry and living organisms, (b) energy changes associated with chemical changes, (c) classes of chemical reactions, (d) rates of reactions, and (e) the role of catalysts</p>	<p>MT.S2. - Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.</p>
<p>S2.3.gr9-12.F. - Give examples of chemical reactions important to industry and living organisms</p>	<p>S2.3.gr9-12.F. - Give examples of chemical reactions important to industry and living organisms</p>	<p>S2.3.gr9-12.F. - Give examples of chemical reactions important to industry and living organisms</p>	<p>S1.5. - Identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation</p> <p>S1.5.gr9-12.A. - Identify and assess the characteristics of a valid investigation</p>
<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>	<p>MT.S2. - Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.</p> <p>S2.4. - Identify, measure, calculate, and analyze relationships associated with matter and energy transfer or transformations, and the associated conservation of mass</p> <p>S2.4.gr9-12.A. - Describe the law of conservation of mass</p>

<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p>	<p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p>
<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>S3.1.gr9-12.G. - Explain how concentration of substances affects diffusion and osmosis</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.B. - Identify processes that maintain homeostasis</p>	<p>S3.1.gr9-12.D. - Compare and contrast prokaryotes and eukaryotes</p> <p>S3.1.gr9-12.F. - Identify key differences between plant and animal cells</p> <p>S3.1.gr9-12.H. - Explain the role of key biologically important macromolecules</p> <p>S3.2. - Describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development</p> <p>S3.2.gr9-12.A. - Explain and give examples of the importance of a constant internal environment</p>
<p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p> <p>S3.2.gr9-12.H. - Summarize the conversion of light energy to chemical energy by photosynthetic organisms</p> <p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration</p> <p>S3.5. - Generate and apply biological classification schemes to infer and discuss the degree of divergence between ecosystems</p> <p>S3.5.gr9-12.A. - List and explain the characteristics of the three domains</p>	<p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p> <p>S3.2.gr9-12.H. - Summarize the conversion of light energy to chemical energy by photosynthetic organisms</p> <p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration</p> <p>S3.5. - Generate and apply biological classification schemes to infer and discuss the degree of divergence between ecosystems</p> <p>S3.5.gr9-12.A. - List and explain the characteristics of the three domains</p>	<p>S3.2.gr9-12.E. - Identify the key components involved in the chemical reaction of cellular respiration</p> <p>S3.2.gr9-12.H. - Summarize the conversion of light energy to chemical energy by photosynthetic organisms</p> <p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration</p> <p>S3.5. - Generate and apply biological classification schemes to infer and discuss the degree of divergence between ecosystems</p> <p>S3.5.gr9-12.A. - List and explain the characteristics of the three domains</p>	<p>S3.2.gr9-12.C. - Classify, compare and contrast various organisms as a heterotroph or autotroph</p> <p>S3.2.gr9-12.F. - Describe and model the conversion of stored energy in organic molecules into usable cellular energy (ATP)</p> <p>S3.2.gr9-12.I. - Explain the relationship between the products and reactants of photosynthesis and cellular respiration</p> <p>S3.2.gr9-12.J. - Explain the purpose of the cell cycle</p>
<p>S3.5.gr9-12.B. - Compare and contrast the key characteristics of each kingdom</p> <p>S3.5.gr9-12.C. - Explain how similarities and differences in the key characteristics of each kingdom indicate the degree of divergence between them</p> <p>MT.S4. - Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.</p> <p>S4.5. - Explain the impact of terrestrial, solar, oceanic, and atmosphere conditions on global climatic patterns</p>	<p>S3.5.gr9-12.B. - Compare and contrast the key characteristics of each kingdom</p> <p>S3.5.gr9-12.C. - Explain how similarities and differences in the key characteristics of each kingdom indicate the degree of divergence between them</p> <p>MT.S4. - Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.</p> <p>S4.5. - Explain the impact of terrestrial, solar, oceanic, and atmosphere conditions on global climatic patterns</p>	<p>S3.5.gr9-12.B. - Compare and contrast the key characteristics of each kingdom</p> <p>S3.5.gr9-12.C. - Explain how similarities and differences in the key characteristics of each kingdom indicate the degree of divergence between them</p> <p>MT.S4. - Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.</p> <p>S4.5. - Explain the impact of terrestrial, solar, oceanic, and atmosphere conditions on global climatic patterns</p>	<p>S3.5. - Generate and apply biological classification schemes to infer and discuss the degree of divergence between ecosystems</p> <p>S3.5.gr9-12.B. - Compare and contrast the key characteristics of each kingdom</p> <p>S3.5.gr9-12.C. - Explain how similarities and differences in the key characteristics of each kingdom indicate the degree of divergence between them</p> <p>S3.5.gr9-12.D. - Explain the classification of living organisms from the domain to species level</p>
<p>S4.5.gr9-12.C. - Examine the geologic, astronomical, and human factors that contribute to global climate change</p> <p>S4.5.gr9-12.E. - Describe socioeconomic and environmental implications of climate change</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.B. - Analyze how the development and/or acceptance of this example was influenced by various factors</p>	<p>S4.5.gr9-12.C. - Examine the geologic, astronomical, and human factors that contribute to global climate change</p> <p>S4.5.gr9-12.E. - Describe socioeconomic and environmental implications of climate change</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.B. - Analyze how the development and/or acceptance of this example was influenced by various factors</p>	<p>S4.5.gr9-12.C. - Examine the geologic, astronomical, and human factors that contribute to global climate change</p> <p>S4.5.gr9-12.E. - Describe socioeconomic and environmental implications of climate change</p> <p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.B. - Analyze how the development and/or acceptance of this example was influenced by various factors</p>	<p>MT.S4. - Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.</p> <p>S4.5. - Explain the impact of terrestrial, solar, oceanic, and atmosphere conditions on global climatic patterns</p> <p>S4.5.gr9-12.E. - Describe socioeconomic and environmental implications of climate change</p> <p>S4.6. - Describe the origin, location, and evolution of stars and their planetary systems in respect to the solar system, the Milky Way, the local galactic group, and the universe</p> <p>S4.6.gr9-12.A. - Describe the Big Bang Theory</p>
<p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.1. - Analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples</p> <p>S6.1.gr9-12.B. - Analyze the positive and negative impacts of past, present, and future science and technological advances</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p>	<p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.1. - Analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples</p> <p>S6.1.gr9-12.B. - Analyze the positive and negative impacts of past, present, and future science and technological advances</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p>	<p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.1. - Analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples</p> <p>S6.1.gr9-12.B. - Analyze the positive and negative impacts of past, present, and future science and technological advances</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p>	<p>MT.S5. - Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.</p> <p>S5.1. - Predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought</p> <p>S5.1.gr9-12.C. - Justify the analysis using cited peer-reviewed sources</p> <p>MT.S6. - Students understand historical developments in science and technology.</p> <p>S6.2. - Trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available</p> <p>S6.2.gr9-12.A. - Identify examples of scientific knowledge that have changed over time</p>



<p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.3. - Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p>	<p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.3. - Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p>	<p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.3. - Describe, explain, and analyze science as a human endeavor and an ongoing process</p> <p>S6.3.gr9-12.E. - Describe how science is an ongoing process</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>S6.2.gr9-12.B. - Discuss the developments that contributed to the progression of the scientific knowledge</p> <p>S6.2.gr9-12.C. - Analyze the impact of each development on the scientific knowledge</p> <p>S6.2.gr9-12.D. - Summarize the process of the advancement of scientific knowledge</p> <p>CC.RST.11-12. - Reading Standards for Literacy in Science and Technical Subjects - Key Ideas and Details</p> <p>RST.11-12.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.11-12.2. - Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p>RST.11-12.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>RST.11-12.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations, and knowledge derived from American Indian cultures) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>RST.11-12.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.</p> <p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p>
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Synaptic Transmission - MT	MT	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - Identify the various applications of scientific investigations (explore new phenomena, check on previous results, to test how well a hypothesis predicts, and to compare hypotheses)</p> <p>S1.1.gr9-12.B. - Identify a testable question</p> <p>S1.1.gr9-12.C. - Identify, from a set of questions, which question can be analyzed using a given set of sample data</p> <p>S1.1.gr9-12.E. - Write a testable question</p> <p>S1.1.gr9-12.F. - Generate a valid hypothesis</p> <p>S1.1.gr9-12.G. - Discriminate between a testable question and a hypothesis</p> <p>S1.1.gr9-12.H. - Compare and contrast a list of hypotheses to determine if they are testable.</p> <p>S1.1.gr9-12.I. - Formulate a single or multiple hypotheses on any given experiment/investigation</p> <p>S1.1.gr9-12.K. - Formulate a sequential plan for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.A. - Design data tables/setup and show an organizational strategy</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.D. - Apply appropriate mathematical analysis</p>	<p>MT.S1. - Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.</p> <p>S1.1. - Generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze the data.</p> <p>S1.1.gr9-12.A. - 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Identify the appropriate safety practices for an investigation</p> <p>S1.2. - Select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation</p> <p>S1.2.gr9-12.B. - Gather data (qualitative/quantitative) using appropriate measurements and methods</p> <p>S1.2.gr9-12.C. - Apply the metric system by appropriate use of units and conversion factors</p> <p>S1.2.gr9-12.E. - Demonstrate graphing design (placement of dependent and independent variables/scaling/units/keys/titles/labels/graph types)</p>

<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g. through graphical representation or charts)</p> <p>S1.3.gr9-12.C. - Determine appropriate communication techniques to communicate and defend results</p> <p>S1.3.gr9-12.D. - Communicate interpretations and conclusions using scientific concepts, mathematical relationships and technology</p> <p>S1.3.gr9-12.E. - Justify and defend conclusions based on evidence</p> <p>S1.3.gr9-12.F. - Explain why conclusions based on evidence are open to revision upon further investigation</p> <p>S1.4. - Analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)</p> <p>S1.4.gr9-12.A. - Identify that various types of models (physical, mental, graphical, and mathematical) can be used to illustrate scientific concepts</p> <p>S1.4.gr9-12.B. - Explain why models are used to express scientific concepts</p> <p>S1.4.gr9-12.C. - Use models to investigate and represent scientific concepts</p> <p>S1.4.gr9-12.D. - Generate a model based on evidence gathered in an investigation</p> <p>MT.S3. - Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.</p> <p>S3.1. - Investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)</p> <p>S3.1.gr9-12.C. - Identify common features among all cells</p> <p>S3.1.gr9-12.E. - Compare and contrast the structure, function and relationship of key cellular components</p> <p>CC.RST.9-10. - Reading Standards for Literacy in Science and Technical Subjects</p> <p>- Key Ideas and Details</p> <p>RST.9-10.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST.9-10.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>RST.9-10.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>CC.WHST.9-10. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.9-10.1. - Write arguments focused on discipline-specific content.</p>	<p>S1.3. - Review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. 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	<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.9-10.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.9-10.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>WHST.9-10.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.9-10.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.9-10.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.9-10.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.9-10.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.9-10.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>WHST.9-10.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST.9-10.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.9-10.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.3. - (See note; not applicable as a separate requirement)</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>CC.WHST.11-12. - Writing Standards for Literacy in Science, and Technical Subjects</p> <p>WHST.11-12.1. - Write arguments focused on discipline-specific content.</p> <p>WHST.11-12.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>WHST.11-12.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>WHST.11-12.1.d. - Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>WHST.11-12.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>WHST.11-12.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST.11-12.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>WHST.11-12.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>WHST.11-12.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>WHST.11-12.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>WHST.11-12.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>WHST.11-12.6. - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.</p>
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