



**Biotechnology, Classification of Instructional Program (CIP) 26.1201
Units of Instruction and Task Grid Linked to Pennsylvania Core Standards**

Secondary Competency Task List with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>100 DEMONSTRATE GOOD WORK HABITS.</p> <p>101. Demonstrate professional work habits.</p> <p>102. Demonstrate the ability to organize, implement, and trouble shoot specific tasks.</p> <p>103. Demonstrate the ability to work in teams and as an individual.</p>	<p>CLUSTER: <i>Health Science Careers</i></p> <p>Choose Cluster Standards From: 1-2-3-4-5-6</p> <p>PATHWAY: <i>Biotechnology Research & Development</i></p> <p>Choose Pathway Standards From: 1-2-3-4-5-6</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc...</p> <p>Standard CC.3.5.9-10B & Standard CC.3.5.9-10.C Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc...</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10</p>	

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		<p>Analyze the structure of the relationships among concepts in a text. etc. Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text. Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from</p>	<p>Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>	

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		<p>other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-12.G. Gather relevant information from multiple authoritative print and digital sources, following a</p>	

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			<p>standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	
<p>200 DEMONSTRATE KNOWLEDGE OF BIOTECHNOLOGY.</p>				
<p>201. Define biotechnology and its role. 202. Demonstrate knowledge of the history of biotechnology. 203. Describe the lifecycle of biotechnology product development. 204. Identify the application of the biotechnology industry. 205. Describe careers in biotechnology.</p>	<p>CLUSTER: <i>Health Science Careers</i></p> <p>Choose Cluster Standards From: 1-2-3-4-5-6</p> <p>PATHWAY: <i>Biotechnology Research & Development</i></p> <p>Choose Pathway Standards From: 1-2-3-4-5-6</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Standard CC.3.5.9-10.C Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C.</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific</p>	

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		<p>Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G.</p>	<p>content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task,</p>	

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		<p>Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH</p>	

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<p>300 DEMONSTRATE LABORATORY KNOWLEDGE AND SKILLS.</p>				
<p>301. Demonstrate competency in validating and using laboratory equipment. 302. Demonstrate competency in using computer office applications. 303. Perform basic laboratory math skills. 304. Apply statistical analysis to interpret data. 305. Demonstrate the ability to use the scientific method. 306. Properly prepare buffers and solutions.</p>	<p>CLUSTER: <i>Health Science Careers</i></p> <p>Choose Cluster Standards From: 1-2-3-4-5-6</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or</p>	<p>ALGEBRA 1 Standard. 2.1.HS.F.1 Apply and extend the properties of exponents to solve problems with rational exponents. Standard. 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p>

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<p>307. Demonstrate the concepts of recombinant technology. 308. Demonstrate the principles of DNA isolation. 309. Perform Polymerase Chain Reaction (PCR). 310. Perform electrophoresis. 311. Perform separation techniques. 312. Explain and perform aseptic technique. 313. Demonstrate the concepts of microbial culture. 314. Demonstrate the concept of mammalian cell culture. 315. Demonstrate the concept of laboratory automation. 316. Perform basic spectrophotometer assays.</p>	<p>PATHWAY: <i>Biotechnology Research & Development</i></p> <p>Choose Pathway Standards From: 1-2-3-4-5-6</p>	<p>Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc... CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc. Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a</p>	<p>explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update</p>	<p>Standard. 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard. 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard. 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>ALGEBRA II Standard 2.4.HS.B.2 Summarize, represent, and interpret data on two categorical and quantitative variables. Standard CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments. Standard CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. StandardCC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context. StandardCC.2.2.HS.D.2 Write expressions in equivalent forms to solve problems. StandardCC.2.2.HS.D.3 Extend the knowledge of arithmetic operations and apply</p>

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		<p>text. Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent</p>	<p>individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E.Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10 Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G.Gather relevant information from multiple</p>	<p>to polynomials. StandardCC.2.2.HS.D.4 Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs. StandardCC.2.2.HS.D.5 Use polynomial identities to solve problems. StandardCC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms. StandardCC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. StandardCC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable. StandardCC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method. StandardCC.2.2.HS.D.10 Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically Standard CC.2.1.HS.F.3 Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs and data displays.</p>

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		<p>understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.11- 12.G.Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	

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400 ETHICS.				
401 Demonstrate the knowledge of bioethics. 402 Demonstrate the knowledge of professional ethics.	<p>CLUSTER: <i>Health Science Careers</i></p> <p>Choose Cluster Standards From: 1-2-3-4-5-6</p> <p>PATHWAY: <i>Biotechnology Research & Development</i></p> <p>Choose Pathway Standards From: 1-2-3-4-5-6</p>	<p>KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words... Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc. Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Develop and strengthen</p>	

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Secondary Competency Task List with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
			and research. RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.	
500 DEMONSTRATE SAFETY IN THE BIOTECHNOLOGY LABORATORY.				
501. Demonstrate general requirements for laboratory safety. 502. Identify and use personal protective equipment. 503. Demonstrate ability to implement safety protocols. 504. Follow MSDS guidelines for handling, storage, and disposal of hazardous material. 505. Demonstrate knowledge of safety regulatory agencies, such as OSHA.	CLUSTER: <i>Health Science Careers</i> Choose Cluster Standards From: 1-2-3-4-5-6 PATHWAY: <i>Biotechnology Research & Development</i> Choose Pathway Standards From: 1-2-3-4-5-6	KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Standard CC.3.5.9-10.C Determine the central ideas or conclusions of a text; etc... Follow precisely a complex multistep procedure, etc... KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc... CRAFT & STRUCTURE		

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		<p>GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10.H. Assess the reasoning in a text to</p>		

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		<p>support the author’s claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		
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600 DEMONSTRATE THE ABILITY TO WORK IN A HIGHLY REGULATED ENVIRONMENT.				
601. Perform documentation according to regulatory agency standards.	CLUSTER: <i>Health Science</i>	KEY IDEAS/DETAILS	TEXT TYPES AND PURPOSE	

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<p>602. Demonstrate an ability to maintain records in accordance with intellectual property laws.</p> <p>603. Document lab activities and findings according to guidelines.</p>	<p><i>Careers</i></p> <p>Choose Cluster Standards From: 1-2-3-4-5-6</p> <p>PATHWAY: <i>Biotechnology Research & Development</i></p> <p>Choose Pathway Standards From: 1-2-3-4-5-6</p>	<p>GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.9-10B & Standard CC.3.5.9-10.C Determine the central ideas or conclusions of a text; etc... Follow precisely a complex multistep procedure, etc...</p> <p>KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc....</p> <p>Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc...</p> <p>CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.9-10.E Analyze the structure of the relationships among concepts in a text. etc.</p> <p>Standard CC.3.5.9-10.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>CRAFT & STRUCTURE</p>	<p>GRADES 9-10 Standard CC.3.6.9-10.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.9-10.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>TEXT TYPES AND PURPOSE GRADES 11-12 Standard CC.3.6.11-12.A Write arguments focused on discipline specific content.</p> <p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10 Standard CC.3.6.9-10.C Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on</p>	

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		<p>GRADES 11-12 Standard CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain specific words...</p> <p>Standard CC.3.5.11-12.E. Analyze the structure of the relationships among concepts in a text.</p> <p>Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 9-10 Standard CC.3.5.9-10.G. Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10.H. Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10.I. Compare and contrast findings presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p>	<p>addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 11-12 Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D.- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10</p>	

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		<p>Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p> <p>Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>Standard CC.3.6.9-10.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RESEARCH GRADES 11-12 Standard CC.3.6.11-12.F. Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.11-12.G. Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12</p>	

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			Standard CC.3.5.9-10.I Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.	
700. DEMONSTRATE USE OF APPROPRIATE EQUIPMENT AND INSTRUMENTATION.				
701. Use laboratory glassware. 702. Use volumetric equipment. 703. Use electrophoresis equipment. 704. Use spectrophotometer. 705. Use balances. 706. Demonstrate knowledge of autoclaves. 707. Use centrifuges. 708. Use pH meters. 709. Demonstrate knowledge of thermocyclers. 710. Use microscopes. 711. Demonstrate knowledge of laminar flow hoods. 712. Demonstrate knowledge of temperature regulating devices (water baths, incubators). 713. Demonstrate knowledge of chromatographic equipment.	CLUSTER: <i>Health Science Careers</i> Choose Cluster Standards From: 1-2-3-4-5-6 PATHWAY: <i>Biotechnology Research & Development</i> Choose Pathway Standards From: 1-2-3-4-5-6	KEY IDEAS/DETAILS GRADES 9-10 Standard CC.3.5.9-10.A. Cite specific textual evidence, etc.... Standard CC.3.5.9-10B & Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.9-10.C Follow precisely a complex multistep procedure, etc... KEY IDEAS/DETAILS GRADES 11-12 Standard CC.3.5.11-12A Cite specific textual evidence, etc.... Standard CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; etc... Standard CC.3.5.11-12.C. Follow precisely a complex multistep procedure, etc... CRAFT & STRUCTURE GRADES 9-10 Standard CC.3.5.9-10.D. Determine the meaning of symbols, key terms, and other domain specific words...		

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		<p>presented in a text to those from other sources, etc...</p> <p>INTEGRATE KNOWLEDGE/ IDEAS GRADES 11-12 Standard CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12.I. Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J AND Standard CC.3.5.11-12.J. By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		