

Student Name: _____

BDEA Science Individualized Learning Plan

Code	Competency	Benchmark	Class	Instructor	Evidence
SC1	Research: Independently research, communicate and defend a scientific topic.				
	Research				
		Search for information on the internet (identify key words for search)			
		Assess credibility of sources, author, sponsoring agency			
		Collect bibliographical information about references			
		Identify the difference between primary and secondary sources			
		Be able to skim articles for main points			
		Summarize relevant information in their own words			
		Formulate research question			
	Defend Scientific Topic				
		Identify both sides of an argument			
		Collect evidence on two opposing or differing sides of an argument			
		Choose a position based on evidence and tradeoffs			
	Communicate Scientific Information				
		Makes effective public presentation, convincing audience of validity of argument			
		Uses visual/oral presentation (poster, powerpoint, etc.)			
		Create an effective written piece conveying important information			

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SC2	System Organization: Understand the different roles distinct subunits play in a scientific system as a whole.				
		Explain a scientific system (how it works in general terms)			
		Identify subunits of system			
		Identify how subunits drive the operation of system			
		Be able to identify possible causes or factors that may disrupt system			
		Compare/Contrast different scientific systems			
		Given a disrupted system, identify possible causes and presenting possible solutions			
SC3	Scientific Method: Use a systematic approach to solve a scientific problem.				
	Develop hypothesis with logical reasoning				
		Formulate testable questions based on scientific observations			
		Develop hypothesis with logical reasoning			
	Conduct an investigation to test questions and hypothesis.				
		Research information pertaining to an investigation or question.			
		Design and conduct investigations to test such questions and hypothesis (includes variables to be controlled and measured)			
		Provide precise and descriptive procedure that can be repeated.			
	Accurately collect and record data in a lab notebook				
		Collect and record data in multiple ways to illustrate trends or patterns in data.			
		Use mathematics to analyze and support findings			
	Collect results from an investigation and draw conclusions based on a review of data and logical thinking				
		Identify trends or patterns based on data.			
		Use results (numbers or facts) collected in experiment to justify and prove your conclusion.			

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		Determine conclusion based on weighing of all data that is logical and evidence driven.			
		Identify sources of error and suggest improvements			
		Discuss further areas of exploration or questions based on collected data/research.			
SC4	History of Science: Demonstrate an understanding of the evolution and refinement of scientific theories over time and their historical significance.				
		Describe an original explanation of a natural phenomenon			
		Explain the historical scientific discoveries that shape the current theory			
		Explain how social context shapes scientific theory			
		Explain how scientific theory shapes society			
SC5	Equilibrium: Identify the factors that contribute to equilibrium and disequilibrium.				
		Distinguish between equilibrium and disequilibrium			
		Identify factors that influence equilibrium and/or disequilibrium in a given system			
		Apply concepts of scientific equilibrium to a new system (scientific or otherwise)			
SC6	Cause and Effect: Relate the physical evidence of natural phenomena to scientific concepts.				
		Question various explanations of scientific phenomenon			
		Come up with possible factors or causes that result in a scientific phenomenon			
		Use evidence to determine the most probable cause(s) for a given scientific phenomenon			
SC7	Energy: Define energy and identify its transfer and or transformation within a process or system.				
		Understand the difference between potential and kinetic energy.			
		Provide examples of how energy can be transformed from kinetic to potential and vice versa			

		Identify different forms of energy in a system			
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		Understand the mechanism by which energy flows and/or is transformed throughout a system.			
		Understand how the flow of energy drives activity in scientific systems			
SC8	Technology: Use appropriate technology to collect, analyze and present scientific information.				
		Use Microsoft Word to present scientific work.			
		Create tables in Microsoft Word and Microsoft Excel.			
		Create graphs in Excel			
		Use PowerPoint to present Scientific work.			
		Use scientific equipment safely and appropriately.			