Grade 8 Sci	ence Texas Fs	sential Knowledge and Skills (TEKS)								
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Grade	Section	Science TEKS	Bioplex	PlaneWorks						
		(1) Scientific processes. The student conducts field and laboratory								
8	112.24.b.1	investigations using safe, environmentally appropriate, and ethical								
ı		practices. The student is expected to:			1 1	ı	ı	1	I	
		(A) demonstrate safe practices during field and laboratory investigations;	Identify the safety equipment							
		and	shown in the <i>Virus Lab</i> and the							
			<u>Vaccine Lab</u>							
		(B) make wise choices in the use and conservation of resources and the								
		disposal or recycling of materials.				l	ļ		ļ	
8	112.24.b.2	(2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:								
		(A) plan and implement investigative procedures including asking questions,								
		formulating testable hypotheses, and selecting and using equipment and								
		technology;								
		(B) collect data by observing and measuring;	Why-Pox Lab Infection Simulator and Why-Pox Lab							
		(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence;	Epidemic Simulator							
		(D) communicate valid conclusions; and	<u> </u>							
		(E) construct graphs, tables, maps, and charts using tools including								
		computers to organize, examine, and evaluate data.								
		(3) Scientific processes. The student uses critical thinking and scientific								
8	112.24.b.3	problem solving to make informed decisions. The student is expected to:								
		(A) analyze, review, and critique scientific explanations, including				ı	ı			
		hypotheses and theories, as to their strengths and weaknesses using				1				
		scientific evidence and information;				 <u> </u>	<u> </u>	<u></u>		
		(B) draw inferences based on data related to promotional materials for	Pharmacv: Buv A Vaccine	<u>Barons</u>						
		products and services;		<u>Dai Ulis</u>						
		(C) represent the natural world using models and identify their limitations.	Whack-A-Virus game; Make-A- Virus game; Write script for							
		(C) represent the natural world using models and identify their limitations;	Virology Tutorials							
		(D) evaluate the impact of research on scientific thought, society, and the	rnology ratorials							
		environment; and								
		(E) connect Grade 8 science concepts with the history of science and								
		contributions of scientists.				I	I	1	1	
8	112.24.b.4	(4) Scientific processes. The student knows how to use a variety of tools and $$								
,	112.27.0.7	methods to conduct science inquiry. The student is expected to:								
		(A) collect, record, and analyze information using tools including beakers,								
		petri dishes, meter sticks, graduated cylinders, weather instruments, hot	Identify the scientific equipment							
		plates, dissecting equipment, test tubes, safety goggles, spring scales,	shown in the <u>Virus Lab</u> and the			1				
		balances, microscopes, telescopes, thermometers, calculators, field	Vaccine Lab							
		equipment, computers, computer probes, water test kits, and timing devices; and				1				
		actively and								
			<u>Design-A-Vaccine</u> game; <u>Make-</u> <u>A-Virus</u> game; <u>Why-Pox Lab</u>							
		(B) extrapolate from collected information to make predictions.	Infection Simulator; Why-Pox			1				
			Lab Epidemiology Simulator			1				
		(5) Scientific processes. The student knows that relationships exist between				l .	I	1	J	
8	112.24.b.5	science and technology. The student is expected to:								
		(A) identify a design problem and propose a solution;	Design-A-Vaccine game; Make-			1				
		(B) design and test a model to solve the problem; and	A-Virus game; Why-Pox Lab	<u>CAD</u> and <u>Olympics;</u> <u>Barons</u>						
		(C) evaluate the model and make recommendations for improving the	Infection Simulator ; Why-Pox	C.D and Olympics, Daiolis		I				
		model.	<u>Lab Epidemiology Simulator</u>			I	1	1	l	
8	112.24.b.6	(6) Science concepts. The student knows that interdependence occurs among living systems. The student is expected to:								
		among name systems. The student is expected to:				I	I		1	
			Whack-A-Virus game; Virology							
		(A) describe interactions among systems in the human organism;	Tutorial; Make-A-Virus game;							
		(A) describe interactions among systems in the numan organism;	<u>Design-A-Vaccine</u> game; <u>Vaccine Design Tutorials</u> ; <u>Buy</u>			1				
			<u>a Vaccine</u> ; <u>Buy</u>			1				
			<u>u vactine</u>							

		(B) identify feedback mechanisms that maintain equilibrium of systems such as body temperature, turgor pressure, and chemical reactions; and					
		(C) describe interactions within ecosystems.					
	l	(7) Science concepts. The student knows that there is a relationship					l
8	112.24.b.7	between force and motion. The student is expected to:					
		(A) demonstrate how unbalanced forces cause changes in the speed or					
		direction of an object's motion; and					
		(B) recognize that waves are generated and can travel through different					
		media.			ļ	ļ	
8	112.24.b.8	(8) Science concepts. The student knows that matter is composed of atoms. The student is expected to:					
	1	(A) describe the structure and parts of an atom; and		1			
		(B) identify the properties of an atom including mass and electrical charge.					
		<u> </u>					
8	112.24.b.9	(9) Science concepts. The student knows that substances have chemical and					
	I	physical properties. The student is expected to: (A) demonstrate that substances may react chemically to form new		ı	ı	l	1
		substances;					
		(B) interpret information on the periodic table to understand that physical					
		properties are used to group elements;					
		(C) recognize the importance of formulas and equations to express what		П			
		happens in a chemical reaction; and					
		(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking					
		surfaces, insulation, adhesives, and plastics.					
	112.24.b.10	(10) Science concepts. The student knows that complex interactions occur		,			
8	112.24.0.10	between matter and energy. The student is expected to:					
		(A) illustrate interactions between matter and energy including specific					
		heat;					
		(B) describe interactions among solar, weather, and ocean systems; and					
		(C) identify and demonstrate that loss or gain of heat energy occurs during exothermic and endothermic chemical reactions.					
		(11) Science concepts. The student knows that traits of species can change					
8	112.24.b.11	through generations and that the instructions for traits are contained in the					
		genetic material of the organisms. The student is expected to:					
		(A) identify that change in environmental conditions can affect the survival					
		of individuals and of species;					
		(B) distinguish between inherited traits and other characteristics that result					
		from interactions with the environment; and (C) make predictions about possible outcomes of various genetic					
		combinations of inherited characteristics.					
8	112.24.b.12	(12) Science concepts. The student knows that cycles exist in Earth systems.					
J	112.27.0.12	The student is expected to:				ı	, [
		(A) analyze and predict the sequence of events in the lunar and rock cycles;					
		(B) relate the role of oceans to climatic changes; and					
		(C) predict the results of modifying the Earth's nitrogen, water, and carbon					
		cycles.					
8	112.24.b.13	(13) Science concepts. The student knows characteristics of the universe.					
	1	The student is expected to:		-	ı		
		(A) describe characteristics of the universe such as stars and galaxies;					
		(B) explain the use of light years to describe distances in the universe; and					
		(C) research and describe historical scientific theories of the origin of the					
		universe.					
8	112.24.b.14	(14) Science concepts. The student knows that natural events and human activities can alter Earth systems. The student is expected to:					
		(A) predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence, and continental drift;					
		(B) analyze how natural or human events may have contributed to the extinction of some species; and					
		(C) describe how human activities have modified soil, water, and air quality.					