

Options FRMS Science 8A-OR		Scope and Sequence
Unit	Lesson	Objectives
Structure of the Universe		
The Expanding Universe		
		Describe the big bang theory.
		Explain how the solar system formed.
		Describe what astronomers predict about the future of the universe.
Star Systems and Galaxies		
		Describe star systems.
		Distinguish the major types of galaxies.
Stars		
		Identify the physical properties of stars.
		Explain how stars are classified.
		Explain how a star forms.
		Explain what happens as a star runs out of fuel.
The Solar System		
		Compare the geocentric and heliocentric models of the solar system.
		Explain how Copernicus, Galileo, and Kepler contributed to the acceptance of the heliocentric model.
		Identify objects that make up the solar system.
Planets		
		Identify characteristics shared by the inner planets.
		Identify characteristics shared by the outer planets.
		Identify each planet in the solar system.
Gravity and Motion		

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The Earth-Sun-Moon System		Identify factors that influence the force of gravity between objects.
		Explain how Earth and the moon stay in orbit.
		Explain how Earth moves in space.
		Explain what causes the phases of the moon.
		Describe solar and lunar eclipses.
Other Objects in the Solar System		Explain what causes tides.
		Distinguish between comets, asteroids, and meteoroids.
		Explain the difference between meteoroids, meteors, and meteorites.
		Describe the characteristics of dwarf planets.
		Science Practice: Examine how life may be affected when cosmic objects impact Earth.
Unit Test		
History of the Earth		
The Fossil Record		Identify how a fossil forms.
		Explain how scientists determine the age of a fossil.
		Examine how the fossil record indicates a long history of changing life-forms.
Relative Dating		Describe the law of superposition.
		Explain how geologists determine the relative age of rocks.
		Explain how fossils are used to date rocks.

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	Absolute Dating	
		Explain what happens during radioactive decay.
		Explain how geologists determine the absolute age of rocks.
	Lab: Relative and Absolute Dating	
		Apply the principles of rock dating to construct a geologic history of a region.
		Model radioactive decay.
	Geologic Time	
		Explain why the geologic time scale is used to show Earth's history.
		Distinguish the units of the geologic time scale.
		Explain how Earth has evolved over geologic time.
	Unit Test	
Natural Selection and Evolution		
	Genetic Code	
		Analyze the contributions of different scientists to the discovery of the genetic code.
		Identify the components and structure of DNA.
		Relate DNA, genes, and chromosomes.
		Examine how cells make proteins.
	DNA Mutations	
		Distinguish common types of DNA mutations.
		Analyze the effects of DNA mutations on the traits of an organism.
	The Theory of Evolution	
		Analyze the historical development of the theory of evolution.

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		Examine the evidence Darwin used to support his theory of evolution.
		Summarize Darwin's theory of evolution.
	Natural Selection	
		Examine how natural selection leads to evolution.
		Identify the conditions required for natural selection.
		Identify ways in which genetic variation and environmental factors contribute to natural selection.
		Describe factors that contribute to the extinction of a species.
	Lab: Natural Selection	
		Examine natural selection within a population.
		Analyze data to determine phenotype changes through generations.
	Evidence for Evolution	
		Determine how comparative anatomy supports the theory of evolution.
		Compare patterns of embryological development in different organisms.
	Evolutionary Relationships	
		Analyze the relationships among organisms based on a variety of shared characteristics.
		Interpret evolutionary relationships among organisms on a cladogram.
	Advances in Genetics	
		Compare the processes of selective breeding, cloning, and genetic engineering.
		Describe the impact of genetic technologies on society and the environment.
		Examine the use of gene therapy to treat disease.
	Unit Test	
Health-Wellness		

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	Health and Wellness	
		Describe the six dimensions of health
		Differentiate between health and wellness
		Analyze how influences such as heredity, environment, and culture impact health
	Skills for Healthy Relationships	
		Identify character traits that promote healthy relationships.
		Describe strategies for communicating in healthy ways.
		Explain the role of empathy in building and maintaining healthy relationships.
	Conflict Resolution and Decision-Making Skills	
		Explain healthy communication and conflict resolution skills.
		Describe how to apply a thoughtful decision-making process to a dangerous, risky, or emotionally charged situation.
		Explain how to effectively respond to peer pressure.
		Identify options that exist when communication fails or breaks down.
	Family Relationships	
		Describe the importance of families and strategies for having health family relationships
		Examine how changes and challenges in the family impact health and wellness
		Develop strategies for preventing, avoiding, and treating abuse and violence within the family
	A Healthy Lifestyle	
		Describe how changes in lifestyle have affected health, wellness, and disease
		Identify controllable and uncontrollable health risk factors and the behaviors that can cause them
		Describe how individuals can address health problems and endorse health advocacy through education

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	A Substance-Free Lifestyle	
		Explain health benefits of abstaining from or discontinuing use of alcohol, tobacco, and other drugs.
		Identify strategies for preventing use of tobacco, alcohol, and other addictive substances.
		Identify healthy alternatives to alcohol, tobacco, and other drug use.
		Identify treatment options for those suffering from alcoholism nicotine dependency, and drug addiction.
	Communicable Diseases	
		Identify the causes, symptoms, and risk factors related to communicable diseases.
		Identify laws, policies, and regulations that promote health and prevent disease.
		Identify strategies to detect, treat, and prevent communicable diseases.
		Describe the impact of global health issues on local communities.
	Understanding HIV, AIDS, and STIs	
		Describe characteristics of a healthy relationship.
		Identify methods for preventing the spread of STIs.
		Describe treatment options for STIs.
		Analyze the impact STIs and HIV/AIDS have on someone's everyday life.
	Test	
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	