



INTEGRATED PHYSICS AND CHEMISTRY
Year at a Glance (YAG)
2021-2022



First Semester		Second Semester	
1 st Nine Weeks – 40 days		3 rd Nine Weeks – 45 days	
TEKS		I.1A, I.1B, I.2C, I.2D, I.2E, I.3B, I.3D, I.7B, I.7C, I.7D, I.7E	Chemical Reactions (15 days) Students will be able to identify the different types of chemical reactions based on the reactants and products. Students will be able to balance chemical equations.
I.1A, I.2E	Laboratory Management (5 days) Students will be able to apply common practices of laboratory safety in order to properly complete laboratories. Students will be able to analyze scientific data.		
I.2C, I.2D, I.2E, I.3A, I.4A, I.4B			
I.1A, I.2B, I.2C, I.2D, I.2E, I.3F, I.4C, I.4D, I.4E, I.4F, I.4G	Motion: Position, Speed, and Acceleration (10 days) Students will be able to discuss the motion of an object using kinematic terms and measurements of distance, displacement, velocity, and acceleration.	I.1A, I.1B, I.2E, I.3C, I.3D, I.3E, I.3F, I.7F	Environmental Impact of Chemical Reactions (15 days) Students will be able to discuss how humans in our society utilize chemicals for everyday purposes. Students will also be able to identify ways that humans manufacture and transport chemicals on a large scale.
I.1A, I.2E, I.5G	Motion: Forces and Momentum (10 days) Students will be able to identify the forces acting on an object and calculate the net force acting on an object. Students will also be able to predict the motion of an object based on the net force acting on the object.		
I.1A, I.2E, I.5A, I.5B, I.5D	Potential and Kinetic (10 days) Students will be able to discuss the conversion of potential to kinetic energy. Students will also convert between potential and kinetic energy through the calculation of each.	I.1A, I.1B, I.2B, I.2C, I.2D, I.2E, I.6E	Solutions (15 days) Students will be able to identify the parts of a solution. Students will be able to discuss diffusion and osmosis. Students will be able to distinguish between the different types of solutions.
I.1A, I.2E, I.5G	Energy: Waves (5 days) Students will be able to identify the parts of the waves. Students will be able to identify mechanical waves. Students will be able to distinguish between transverse and longitudinal waves. Students will be able to calculate the speed of a wave. Students will be able to identify the relationship between the energy, wavelength, and frequency of a wave.		
2 nd Nine Weeks – 43 days		4 th Nine Weeks – 45 days	



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<u>TEKS</u>		<u>TEKS</u>	
I.1A, I.2E, I.5G	Energy: Waves (5 days) Students will be able to identify various types of electromagnetic radiation. Students will be able to distinguish between high and low energy electromagnetic radiation. Student will be able to identify what range of the EMS is visible light.	I.1A, I.1B, I.2B, I.2C, I.2D, I.2E, I.6E	Solutions (15 days) Students will be able to distinguish between acidic and basic solutions. Students will be able to discuss the process of neutralization. Students will be able to determine the pH of a solution from reading a pH meter.
I.1A, I.2A, I.2E, I.3E, I.5C, I.5F	Energy: Electricity (13 days) Students will understand the two basic types of circuits. Students will be able to identify when an electrical circuit is closed/open. Students will understand the connection between the length and thickness of a wire and how fast a current will flow.	I.1A, I.2E, I.3A, I.5D, I.5E	Thermal Energy Transfer and Conservation (15 days) Students will be able to state the Law of Conservation of Energy. Students will be able to identify the type and source of different forms of energy. Students will be able to determine how energy is transferred between different objects.
I.1A, I.1B, I.2C, I.2D, I.2E, I.6B, I.6C, I.6D	Organization of Matter (15 days) Students will be able to discuss how matter is organized in chemistry. Students will be able to identify the type of matter a sample is using content level terminology. Students will understand how the organization of matter affects chemical reactions.	I.1B, I.2D, I.2E, I.3C, I.5H, I.5I	Energy: Societal Impacts (15 days) Students will be able to articulate the dependence of people on non renewable energy. Students will examine the environmental impacts of our reliance on fossil fuels. Students will investigate the alternative sources to meet the energy requirements of our society.
I.1A, I.1B, I.2B, I.2C, I.2D, I.2E, I.3A, I.6A, I.7A, I.7B	Changes in Matter (10 days) Students will be able to distinguish between chemical and physical changes.		

Resources

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks