

Planned Course: Physical Science	Course Number: 400	Department: Science	
Unit 1: Methods and Measurement Estimated Time: 2 weeks*	Grade Level: 9th Level/Track: General	Date Approved: 9/25/2014	
PA Academic Standards	Core Concepts (in question format) • Skills/Knowledge	Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)	Assessments (include types and topics)

<p>3.2 Physical Sciences: Chemistry and Physics</p> <p>3.2.7.B7 Science as Inquiry</p> <ul style="list-style-type: none"> • Compare and contrast scientific theories. • Know that both direct and indirect observations are used by scientists to study the natural world and universe. • Identify questions and concepts that guide scientific investigations. • Formulate and revise explanations and models using logic and evidence. • Recognize and analyze alternative explanations and models. <p>3.2.10.B6 Patterns, Scales, Models, Constancy/Change</p> <ul style="list-style-type: none"> • Explain how the behavior of matter and energy follow predictable patterns 	<p><i>*Concepts should be integrated throughout the course</i></p> <p>▶ How do you conduct a proper scientific experiment?</p> <ul style="list-style-type: none"> • The student will identify problems by observing and inferring • The student will use laboratory equipment to make accurate observations • The student will demonstrate an understanding of the safe and appropriate use of lab equipment • The student will demonstrate the methods of problem solving • The student will compare and contrast hypothesis, theory and scientific law • The student will define constant, independent variable and dependent 	<ul style="list-style-type: none"> • Measurement lab (volume, mass, area and density) • Conduct an experiment to solve a problem • Graphing lab (bar, line and circle) • Significant digits worksheet • Following directions lab • Identifying and controlling variables • Concept mapping 	<ul style="list-style-type: none"> • Student lab reports on all core concepts • Methods of problem solving quiz on all core concepts • Test methods and measurement • Observation/Inference quiz • Group assessment on all core concepts • Quiz, metric conversions and significant digits
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that are defined by laws.	variable <ul style="list-style-type: none"> The student will demonstrate the methods of science. 				
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