

Alignment Document

State of Wisconsin And Aventa Learning Chemistry

Chemistry

2005-2007 Benchmark Blueprint

State Standard Number	State Standard Area / Description	Unit Name	Course Topic Description
A.12	Science Connections		
A.12.1	Apply the underlying themes of science to develop defensible visions of the future		
A.12.2	Show how conflicting assumptions about science themes lead to different opinions and decisions about evolution, health, population, longevity, education, and use of resources, and show how these opinions and decisions have diverse effects on an individual, a community, and a country, both now and in the future		
A.12.3	Give examples that show how partial systems, models, and explanations are used to give quick and reasonable solutions that are accurate enough for basic needs	Nuclear Chemistry	Lab: Construct a Bohr Model of C-13 atom
A.12.4	Construct arguments that show how conflicting models and explanations of events can start with similar evidence		
A.12.5	Show how the ideas and themes of science can be used to make real-life decisions about careers, work places, life-styles, and use of resources		
A.12.6	Identify and, using evidence learned or discovered, replace inaccurate personal models and explanations of science-related events	Nuclear Chemistry	Lab: Construct a Bohr Model of C-13 atom

A.12.7	Re-examine the evidence and reasoning that led to conclusions drawn from investigations, using the science themes		
B.12	Nature of Science		
B.12.1	Show how cultures and individuals have contributed to the development of major ideas in the earth and space, life and environmental, and physical sciences	Atoms	The Periodic Table
		Atoms	Electrons in Atoms
		Nuclear Chemistry	Inside the Atom
B.12.2	Identify the cultural conditions that are usually present during great periods of discovery, scientific development, and invention		
B.12.3	Relate the major themes of science to human progress in understanding science and the world		
B.12.4	Show how basic research and applied research contribute to new discoveries, inventions, and applications		
B.12.5	Explain how science is based on assumptions about the natural world and themes that describe the natural world		
C.12	Science Inquiry		
C.12.1	When studying science content, ask questions suggested by current social issues, scientific literature, and observations of phenomena, build hypotheses that might answer some of these questions, design possible investigations, and describe results that might emerge from such investigations	Measurement	Scientific Method
		Organic Chemistry	Lab: Make Slime (polymers)
C.12.2	Identify issues from an area of science study, write questions that could be investigated, review previous research on these questions, and design and conduct responsible and safe investigations to help answer the questions	Measurement	Scientific Method
C.12.3	Evaluate the data collected during an investigation, critique the data-collection procedures and results, and suggest ways to make any needed improvements		

C.12.4	During investigations, choose the best data-collection procedures and materials available, use them competently, and calculate the degree of precision of the resulting data		
C.12.5	Use the explanations and models found in the earth and space, life and environmental, and physical sciences to develop likely explanations for the results of their investigations	Nuclear Chemistry	Lab: Construct a Bohr Model of C-13 atom
C.12.6	Present the results of investigations to groups concerned with the issues, explaining the meaning and implications of the results, and answering questions in terms the audience can understand		
C.12.7	Evaluate articles and reports in the popular press, in scientific journals, on television, and on the Internet, using criteria related to accuracy, degree of error, sampling, treatment of data, and other standards of experimental design	Organic Chemistry	Lab: Make Slime (polymers)
		Measurement	Uncertainty
		Measurement	Lab: Accuracy and Uncertainty in measurements
G.12	Science Applications		
G.12.1	Identify personal interests in science and technology, implications that these interests might have for future education, and decisions to be considered		
G.12.2	Design, build, evaluate, and revise models and explanations related to the earth and space, life and environmental, and physical sciences	Nuclear Chemistry	Lab: Construct a Bohr Model of C-13 atom
G.12.3	Analyze the costs, benefits, or problems resulting from a scientific or technological innovation, including implications for the individual and the community		
G.12.4	Show how a major scientific or technological change has had an impact on work, leisure, or the home		
G.12.5	Choose a specific problem in our society, identify alternative scientific or technological solutions to that problem and argue it merits		

H.12	Science in Social and Personal Perspectives		
H.12.1	Using the science themes and knowledge of the earth and space, life and environmental, and physical sciences, analyze the costs, risks, benefits, and consequences of a proposal concerning resource management in the community and determine the potential impact of the proposal on life in the community and the region		
H.12.2	Evaluate proposed policy recommendations (local, state, and/or national) in science and technology for validity, evidence, reasoning, and implications, both short and long-term		
H.12.3	Show how policy decisions in science depend on social values, ethics, beliefs, and time-frames as well as considerations of science and technology		
H.12.4	Advocate a solution or combination of solutions to a problem in science or technology		
H.12.5	Investigate how current plans or proposals concerning resource management, scientific knowledge, or technological development will have an impact on the environment, ecology, and quality of life in a community or region		
H.12.6	Evaluate data and sources of information when using scientific information to make decisions		
H.12.7	When making decisions, construct a plan that includes the use of current scientific knowledge and scientific reasoning		