Science Curriculum Chemistry
Cross County School

Science Skill	Concept	District Objective	Curricular Indicator	Performance Level	Pacing	Instructional Materials/ Class Activities	Intervention	Assessment Local	Assessment NeSA
Inquiry		Formulate a testable hypothesis supported by prior knowledge to guide an investigation	SC12.1.1.a	MR					
Inquiry		Design and conduct logical and sequential scientific investigations with repeated trials and apply findings to new investigations	SC12.1.1.b	MR					
Inquiry		Identify and manage variables and constraints	SC12.1.1.c	MR					
Inquiry		Select and use lab equipment and technology appropriately and accurately	SC12.1.1.d	MR					
Inquiry		Use tools and technology to make detailed qualitative and quantitative observations	SC12.1.1.e	MR					
Inquiry		Represent and review collected data in a systematic, accurate, and objective manner	SC12.1.1.f	MR					
Inquiry		Analyze and interpret data, synthesize ideas, formulate and evaluate models, and clarify concepts and explanations	SC12.1.1.g	MR					
Inquiry		Use results to verify or refute a hypothesis	SC12.1.1.h	MR					
Inquiry		Propose and/or evaluate possible revisions and alternate explanations	SC12.1.1.i	MR					
Inquiry		Share information, procedures, results, conclusions, and defend findings to a scientific community (peers, science fair audience, policy makers)	SC12.1.1.j	MR					
Inquiry		Evaluate scientific investigations and offer revisions and new ideas as appropriate	SC12.1.1.k	P,M					
Inquiry		Use appropriate mathematics in all aspects of scientific inquiry	SC12.1.1.l	MR					
Inquiry		Recognize that scientific explanations must be open to questions, possible modifications, and must be based upon historical and current scientific knowledge	SC12.1.2.a	MR					
Inquiry		Describe how society influences the work of scientists and how science, technology, and current scientific discoveries influence and change society	SC12.1.2.b	MR					
Inquiry		Recognize that the work of science results in incremental advances, almost always building on prior knowledge, in our understanding of the world	SC12.1.2.c	MR					

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Inquiry		Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted	SC12.1.2.d	MR					
Inquiry		Propose designs and choose between alternative solutions of a problem	SC12.1.3.a	MR					
Inquiry		Assess the limits of a technological design	SC12.1.3.b	MR					
Inquiry		Implement the selected solution	SC12.1.3.c	MR					
Inquiry		Evaluate the solution and its consequences	SC12.1.3.d	MR					
Inquiry		Communicate the problem, process, and solution	SC12.1.3.e	MR					
Inquiry		Compare and contrast the reasons for the pursuit of science and the pursuit of technology	SC12.1.3.f	MR					
Inquiry		Explain how science advances with the introduction of new technology	SC12.1.3.g	MR					
Inquiry		Recognize creativity, imagination, and a good knowledge base are all needed to advance the work of science and engineering	SC12.1.3.h	R					
Chemistry	Data Analysis	Calculate problems using "scientific notation", "percentage error", and "significant digits".		MR					
	Periodic Table	Describe the components of the periodic table, including atomic number, atomic mass, and mass number.	12.2.1h	R					
	Electrons	Explain the electromagnetic spectrum.	12.2.3g	P, M					
		List and explain the 4 quantum numbers.		I, P, M					
	Ions & Bonds	Describe different types of ions and their bonding properties.	12.2.1a, 12.2.1g	P, M					
		Explain bonding and the two types of bonds.	12.2.1a	P, M					
		Describe the oxidation number and it affects bonding of elements.	12.2.1a	P, M					
		Distinguish between sigma and pi bonds.	12.2.1a	I, P, M					
	Moles	Describe molecular and empirical formulas.		I, P, M					
	Chem React	Explain a chemical reaction and give examples.	12.2.1d, 12.2.1e	P, M					

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		Define reactants and products.	12.2.1e	P, M					
		Explain and work word, skeletal, and balanced equations.		I, P, M					
		List and identify the types of chemical reactions.	12.2.1d, 12.2.1e	P, M					
	Moles	Define moles and be able to convert moles and mass.		I, P, M					
	States of Matter	Explain surface tension, fluidity, and viscosity.		I, P, M					
		Describe the energy transfer, arrangement and motion of particles, and bonding of molecules in regard to the three states of matter.	12.2.1b, 12.2.1c	P, M					
	Chem React	Name the three types of nuclear reactions.	12.2.3h	P, M					