

Chilton Public Schools Curriculum Document

Curricular Area: SCIENCE

Grade: 11-12

Course Title (if different than Curricular Area): CHEMISTRY

E E	IT	E V	E C	WI Academic Standard	WKCE Strand	Learner Concepts	I	D	R	M	R
X	B.12.1, B.12.2 B.12.3, B.12.5 B.12.6, C.12.4 D.12.1	X	X	A.12.1,A.12.4,A.12.5, B.12.1,B.12.2,B.12.3, B.12.5,C.12.1,C.12.3, C.12.4,C.12.5,G.12.2, G.12.3,G.12.4,G.12.5, H.12.1,H.12.3,H.12.6 H.12.7	19 – Science Inquiry = abilities, understanding 25-History and Nature of Science = Nature of Science, Science as human endeavor, History of Science	Science of chemistry	X	X	X	X	X
X	B.12.1, B.12.2 B.12.3, B.12.5 B.12.6, C.12.4 D.12.1	X		A.12.1,A.12.4,A.12.5, B.12.1,B.12.2,B.12.3, B.12.5,C.12.1,C.12.3, C.12.4,C.12.5,G.12.2, G.12.3,G.12.4,G.12.5, H.12.1,H.12.3,H.12.6 H.12.7	19 – Science Inquiry = abilities, understanding 25-History and Nature of Science = Nature of Science, Science as human endeavor	Scientific method		X	X	X	X
X	B.12.1, B.12.2 B.12.3, B.12.4 B.12.5, B.12.6 B.12.7, C.12.4 D.12.1,D.12.2	X	X	A.12.1,A.12.4,A.12.5, B.12.1,B.12.2,B.12.3, B.12.4,B.12.5,C.12.1, C.12.3,C.12.4,C.12.5, G.12.2,G.12.3,G.12.4, G.12.5,H.12.1,H.12.3, H.12.6H.12.7	19 – Science Inquiry = abilities, understanding 23-Science & Technology = Abilities of technological design, Understanding science/technology	Scientific research		X	X	X	X
X	B.12.1, B.12.2 B.12.3, B.12.4 B.12.5, B.12.6 B.12.7, C.12.4 D.12.1,D.12.2	X			23-Science & Technology = Abilities of technological design, Understanding science/technology	Science safety		X	X	X	X
X	C.12.4,D.12.1 D.12.2	X		A.12.3,A.12.4,A.12.5	23-Science & Technology = Abilities of technological design, Understanding science/technology	Metric measurements		X	X	X	X

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E E	IT	E V	E C	WI Academic Standard	WKCE Strand	Learner Concept	I	D	R	M	R
X	C.12.4,D.12.1 D.12.2			A.12.3,A.12.4,A.12.5	23-Science & Technology = Abilities of technological design, Understanding science/technology	Scientific notation		X	X	X	X
X	C.12.4,D.12.1 D.12.2			A.12.3,A.12.4,A.12.5	23-Science & Technology = Abilities of technological design, Understanding science/technology	Significant figures	X	X	X	X	X
X	C.12.4,D.12.1 D.12.2			A.12.3,A.12.4,A.12.5	23-Science & Technology = Abilities of technological design, Understanding science/technology	Dimensional analysis		X	X	X	X
X	C.12.4,D.12.1 D.12.2			A.12.3,A.12.4,A.12.5, C.12.1,C.12.3,C.12.4, C.12.5,C.12.6	23-Science & Technology = Abilities of technological design, Understanding science/technology	Density		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Chemical reactions	Properties and changes in matter		X	X	X	X
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Mixtures of matter		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Elements and compounds		X	X	X	X
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 A.12.2,A.12.3,A.12.4	20-Physical Science = Properties, Structure of atoms	Atomic theories		X	X	X	

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X	A.12.3,A.12.4 A.12.5,B.12.3 B.12.4,B.12.5	X	X	D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.10,D.12.12	20-Physical Science = Properties, Structure of atoms	Atomic structure & radioactivity		X	X	X	X
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties, Structure of atoms	Isotopes		X	X	X	
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties, Structure of atoms	Electron configurations		X	X	X	
X	C.12.4,D.12.1 D.12.2			B.12.1,B.12.2,B.12.4, C.12.3,C.12.4,C.12.5 D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	19-Science Inquiry = Understanding 20-Physical Science = Properties, Structure of Atoms 23-Science and Tech. = Abilities of Tech. design 25-History and Nature of Science = History of Science	Periodic table and law		X	X	X	
X	A.12.3,A.12.4 A.12.5,B.12.3 B.12.4,B.12.5			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties, Structure of Atoms	Element identification		X	X	X	X
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8,C.12.3,C.12.4 C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Ionic compounds		X	X	X	X
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8,C.12.3,C.12.4 C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Covalent compounds		X	X	X	X

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E E	IT	E V	E C	WI Academic Standard	WKCE Strand	Learner Concepts	I	D	R	M	R
X	C.12.4,D.12.1 D.12.2	X		C.12.3,C.12.4C.12.5, D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8,D.12.10D.12.12	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Chemical reactions		X	X	X	X
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties, Structure of Atoms, Chemical Rxns	The mole, mass and atoms	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Moles of compounds	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Empirical and molecular formulas	X	X	X		
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Hydrates	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Stoichiometry calculations	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Reactions	Limiting reactants	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Properties, Structure of Atoms, Chemical Rxns	Percent yield	X	X	X		

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X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	States of matter		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8	20-Physical Science = Properties, Motions and Forces, Energy	Attractive forces		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8	20-Physical Science = Properties, Motions and Forces, Energy	Phase changes		X	X	X	
X	A.12.3,A.12.4 A.12.5	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Gases and gas laws	X	X	X		
X	C.12.4,D.12.1 D.12.2			D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Gas stoichiometry	X	X	X		
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Solution concentrations		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Properties of solutions		X	X	X	
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Heterogeneous mixtures		X	X	X	
X	A.12.3,A.12.4 A.12.5,D.12.2	X	X	C.12.3,C.12.4,C.12.5, C.12.6,D.12.1,D.12.2, D.12.3,D.12.4,D.12.5, D.12.6,D.12.8,G.12.1, G.12.3,G.12.4,G.12.5, H.12.1,H.12.4,H.12.5, H.12.6,H.12.7	19-Science Inquiry = Abilities; Understanding 20-Physical Science = Properties, Motions & Forces 23-Science & Tech. = Abilities of Tech. design, Understanding Science/Tech. 24-Personal & Social Perspectives in Science	Water chemistry	X	X	X		

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					Person/Comm. Health, Natural Resources, Environ. Quality, STS, Risks & Benefits						
E E	IT	E V	E C	WI Academic Standard	WKCE Strand	Learner Concept	I	D	R	M	R
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 D.12.8	20-Physical Science = Properties, Motions & Forces	Molecular structure and dipolar structure of water	X	X	X		
X	C.12.4,D.12.1 D.12.2	X		D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6	20-Physical Science = Properties	Physical properties of water	X	X	X		
X	A.12.3,A.12.4 A.12.5,B.12.3 B.12.4,B.12.5	X	X	G.12.1,G.12.3,G.12.4, G.12.5,H.12.1,H.12.4, H.12.5,H.12.6,H.12.7	24-Personal & Social Perspectives in Science Person/Comm. Health, Natural Resources, Environ. Quality, STS, Risks & Benefits	Purification methods of water	X	X	X		
X	C.12.4,D.12.1 D.12.2	X	X	C.12.3,C.12.4,C.12.5 D.12.9,D.12.10, D.12.11,D.12.12	20-Physical Science = Light, Heat, and Elec., Energy	Nature of energy and specific heat	X	X	X		
X	C.12.4,D.12.1 D.12.2	X	X	D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Chemical Reactions	Reaction rates and effects	X	X	X		
X	C.12.4,D.12.1 D.12.2	X		D.12.4,D.12.5,D.12.6 C.12.3,C.12.4,C.12.5	20-Physical Science = Chemical Reactions	Chemical equilibrium and effects	X	X	X		
X	C.12.4,D.12.1 D.12.2	X	X	D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6, D.12.11,D.12.12	20-Physical Science = Properties, Chemical Reactions	Strength of acids and bases		X	X	X	
X	D.12.1,D.12.2	X	X	G.12.1,G.12.3,G.12.4, G.12.5,H.12.1,H.12.4, H.12.5,H.12.6,H.12.7	23-Science & Tech. = Abilities of Tech. Design, Understanding	pH and neutralization		X	X	X	

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				C.12.3,C.12.4,C.12.5	Science/Tech. 24-Personal & Social Perspectives in Science Person/Comm. Health, Natural Resources, Environ. Quality, STS, Risks & Benefits						
EE	IT	EV	EC	WI Academic Standard	WKCE Strand	Learner Concept	I	D	R	M	R
X	C.12.4,D.12.1 D.12.2	X	X	D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 G.12.1,G.12.3,G.12.4, G.12.5,H.12.1,H.12.4, H.12.5,H.12.6,H.12.7	20-Physical Science = Properties 24-Personal & Social Perspectives in Science Person/Comm. Health	Organic chemistry	X	X	X		
X	C.12.4,D.12.1 D.12.2	X	X	D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 G.12.1,G.12.3,G.12.4, G.12.5,H.12.1,H.12.4, H.12.5,H.12.6,H.12.7	20-Physical Science = Properties 24-Personal & Social Perspectives in Science Person/Comm. Health	Hydrocarbons	X	X	X		
X	C.12.4,D.12.1 D.12.2	X	X	D.12.1,D.12.2,D.12.3, D.12.4,D.12.5,D.12.6 G.12.1,G.12.3,G.12.4, G.12.5,H.12.1,H.12.4, H.12.5,H.12.6,H.12.7	20-Physical Science = Properties 24-Personal & Social Perspectives in Science Person/Comm. Health	Substituted hydrocarbons (functional groups)	X	X	X		

EE = Education for Employment
IT = Information and Technology
EV = Environmental Education
EC = Economic Education

I = Introduced
D = Developed
R = Reviewed
M = Mastered