Wisconsin Physical Science Standard D
Curriculum Mapping

Physical Science - Chemistry	Boardworks High School Chemistry Presentation
STRUCTURE OF ATOMS AND MATTER	
D.12.1 Describe atomic structure and the properties of atoms, molecules, and matter during physical and chemical interactions	Atomic Number and Mass Number Atomic Structure Changing State Compounds Covalent Bonding Electron Configuration Electron Structure and the Periodic Table Ionic Bonding Particles in Action Reacting Masses The Periodic Table
D12.2 Explain the forces that hold the atom together and illustrate how nuclear interactions change the atom	Chain Reactions Nuclear Fission Nuclear Fusion
D.12.3 Explain exchanges of energy in chemical interactions and exchange of mass and energy in atomic/nuclear reactions	Conservation of Mass
CHEMICAL REACTIONS	
D.12.4 Explain how substances, both simple and complex, interact with one another to produce new substances	Carboxylic Acids Combustion Covalent Bonding Formation of Ions Hydrocarbons Hydrogenation Ionic Bonding Ionic Compounds Metallic Bonding Polymers Reversible Reactions Thermal Decomposition

D.12.5 Identify patterns in chemical and physical properties and use them to predict likely chemical and physical changes and interactions	Patterns of Behavior
D.12.6 Through investigations, identify the types of chemical interactions, including endothermic, exothermic, oxidation, photosynthesis, and acid/base reactions	Endothermic Reactions Exothermic Reactions Neutralization Oxidation Numbers Redox Reactions
MOTIONS AND FORCES	
D.12.7 Qualitatively and quantitatively analyze changes in the motion of objects and the forces that act on them and represent analytical data both algebraically and graphically	*See Boardworks High School Physics for relevant presentations.*
D.12.8 Understand the forces of gravitation, the electromagnetic force, intermolecular force, and explain their impact on the universal system*	
D.12.9 Describe models of light, heat, and sound and through investigations describe similarities and differences in the way these energy forms behave	
CONSERVATION OF ENERGY AND THE INCREASE IN DISORDER	
D.12.10 Using the science themes, illustrate the law of conservation of energy during chemical and nuclear reactions	Conservation of Mass Nuclear Fission
INTERACTIONS OF MATTER AND ENERGY	
D.12.11 Using the science themes, explain common occurrences in the physical world	Changing State Combustion Earth's Structure Fermentation The Impact of Mining The Impact of Using CFCs Particles in Action Properties of Acids and Alkalis
D.12.12 Using the science themes and knowledge of chemical, physical, atomic, and nuclear interactions, explain changes in materials, living things, earth's features, and stars	Nuclear Fusion The Atmosphere Chain Reactions Changing State Combustion Fermentation The Haber Process The Impact of Mining The Impact of Using CFCs