

MIDDLE SCHOOL SCIENCE	Boardworks Middle School Science Presentation
<b>Standard D: Physical Science</b>	
<b>PROPERTIES AND CHANGES OF PROPERTIES IN MATTER</b>	
D.8.1 Observe, describe, and measure physical and chemical properties of elements and other substances to identify and group them according to properties such as density, melting points, boiling points, conductivity, magnetic attraction, solubility, and reactions to common physical and chemical tests	Changes of Matter Conduction and Convection Magnetic Materials Solutions Elements and Compounds The Periodic Table
D.8.2 Use the major ideas of atomic theory and molecular theory to describe physical and chemical interactions among substances, including solids, liquids, and gases	Particles in Action Atomic Structure Making Compounds
D.8.3 Understand how chemical interactions and behaviors lead to new substances with different properties	Types of Chemical Reactions Making Compounds Making Gases
<i>D.8.4 While conducting investigations, use the science themes to develop explanations of physical and chemical interactions and energy exchanges</i>	-
<b>MOTIONS AND FORCES</b>	
D.8.5 While conducting investigations, explain the motion of objects by describing the forces acting on them	What Are Forces? Calculating Resultant Forces
D.8.6 While conducting investigations, explain the motion of objects using concepts of speed, velocity, acceleration, friction, momentum, and changes over time, among others, and apply these concepts and explanations to real-life situations outside the classroom	Distance, Time and Speed Friction
D.8.7 While conducting investigations of common physical and chemical interactions occurring in the laboratory and the outside world, use commonly accepted definitions of energy and the idea of energy conservation	What is Energy?
<b>TRANSFER OF ENERGY</b>	

D.8.8 Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations	<p>What is Light?  What is Sound?  Heat and Temperature  Magnetic Fields  Gravity  Electromagnetic Waves  Reflection  Refraction  Speed of Sound</p>
D.8.9 Explain the behaviors of various forms of energy by using the models of energy transmission, both in the laboratory and in real-life situations in the outside world	<p>How is Electrical Energy Useful?  Energy Transfer in Circuits  What is Energy?  Energy Changes</p>
D.8.10 Explain how models of the atomic structure of matter have changed over time, including historical models and modern atomic theory	<p>Atomic Structure  What Are Atoms?</p>
<b>Standard E: Earth and Space Science</b>	
<b>STRUCTURE OF EARTH SYSTEM</b>	
E.8.1 Using the science themes, explain and predict changes in major features of land, water, and atmospheric systems	<p>What is Plate Tectonics?</p>
E.8.2 Describe underlying structures of the earth that cause changes in the earth's surface	<p>The Structure of the Earth  What is Plate Tectonics?  Plate Boundaries</p>
E.8.3 Using the science themes during the process of investigation, describe climate, weather, ocean currents, soil movements and changes in the forces acting on the earth	<p>Climate Zones  What is Weather?  Wind and Ocean Currents</p>
E.8.4 Using the science themes, analyze the influence living organisms have had on the earth's systems, including their impact on the composition of the atmosphere and the weathering of rocks	<p>Biological Weathering  What is Photosynthesis?</p>
<b>EARTH'S HISTORY</b>	
E.8.5 Analyze the geologic and life history of the earth, including change over time, using various forms of scientific evidence	<p>The Solar System  What is Plate Tectonics?</p>
E.8.6 Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources	<p>Nonrenewable Energy Resources  Renewable Energy  Fossil Fuels  Greenhouse Gases  Energy Resources for the Future</p>

<b>EARTH IN THE SOLAR SYSTEM</b>	
E.8.7 Describe the general structure of the solar system, galaxies, and the universe, explaining the nature of the evidence used to develop current models of the universe	The Solar System
E.8.8 Using past and current models of the structure of the solar system, explain the daily, monthly, yearly, and long-term cycles of the earth, citing evidence gained from personal observation as well as evidence used by scientists	Days, Years and Months The Earth, Moon and Sun
<b>Standard F: Life and Environmental Science</b>	
<b>STRUCTURE AND FUNCTION IN LIVING THINGS</b>	
F.8.1 Understand the structure and function of cells, organs, tissues, organ systems, and whole organisms	Animal and Plant Cells Cells to Organisms Digestion Human Sex Cells and Systems Respiration and the Circulatory System The Endocrine System The Nervous System The Respiratory System Leaves and Glucose The Musculoskeletal System
F.8.2 Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments	Adaptations
F.8.3 Differentiate between single-celled and multiple-celled organisms (humans) through investigation, comparing the cell functions of specialized cells for each type of organism	Animal and Plant Cells Leaves and Glucose
<b>REPRODUCTION AND HEREDITY</b>	
F.8.4 Investigate and explain that heredity is comprised of the characteristic traits found in genes within the cell of an organism	Genes and Alleles Causes of Variation Inheritance
F.8.5 Show how different structures both reproduce and pass on characteristics of their group	Types of Reproduction Types of Variation Causes of Variation Human Sex Cells and Systems
<b>REGULATION AND BEHAVIOR</b>	

F.8.6 Understand that an organism is regulated both internally and externally	–
F.8.7 Understand that an organism's behavior evolves through adaptation to its environment	Adaptations Animal Behavior Human Behavior Types of Animal Behavior
<b>POPULATIONS AND ECOSYSTEMS</b>	
F.8.8 Show through investigations how organisms both depend on and contribute to the balance or imbalance of populations and/or ecosystems, which in turn contribute to the total system of life on the planet	Competition Feeding Types Food Webs
<b>DIVERSITY AND ADAPTATIONS OF ORGANISMS</b>	
F.8.9 Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species	Environmental Change
F.8.10 Project how current trends in human resource use and population growth will influence the natural environment, and show how current policies affect those trends.	Environmental Change Greenhouse Gases Acid Rain Growing Plants Flooding Weather Hazards