Correlation of Maryland Voluntary State Science Curriculum to:
Matter in Action Series
Visual Learning Company
1-800-453-8481

Maryland State Learning Standards	Video Title with Concepts and Vocabulary	Teacher's Guide Activities	Assessment Tools
Grade 4 **A. Structure of Matter** 1. **Provide evidence to support the fact that matter can be detected and measured.** a. Based on data from investigations classify samples of matter using observable properties. · Strength · Hardness · Flexibility · Durability · Ease of conducting heat b. Compare samples of like materials using appropriate tools to measure, estimate, and calculate size, capacities, and weights. c. Cite evidence that supports the statement, "All matter takes up space and contains a certain amount of material.	**What is Matter?** In this video students will explore how they depend on and interact with matter. Physical and chemical properties of matter are demonstrated and the methods used to measure matter are discussed. Concepts and vocabulary include: metric system, length, mass, weight, volume, meter, kilogram, gram, liter, water displacement, and density.	**What is Matter? Guide:** *Metric Madness* page 25 *Identifying Properties of Matter - Measurement* pages 26-27 *Identifying Properties of Matter - Density* pages 28-29	**What is Matter? Guide:** Preliminary Test pages 19-20 Video Review page 21 Post Test pages 22-23 Vocabulary of *What is Matter?* page 30
Grade 6 **C. States of Matter** 1. **Provide evidence and examples illustrating that most substances can exist as a solid, liquid, or gas depending on temperature.**	**Solids, Liquids, and Gases Video:** Students will investigate real-life examples of the various phases of matter. Colorful animations illustrate how these state of matter	**Solids, Liquids, and Gases Guide:** *Phase Changes of Water* pages 25-27	**Solids, Liquids, and Gases Guide:** Preliminary Test pages 19-20 Video Review page 21

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a. Use evidence from investigations to describe the effect that adding heat energy to different types of matter has on the rate at which the matter changes from one state to another. b. Based on data from investigations describe the effect that removing heat energy from differently types of matter changes from one state to another. c. Analyze data gathered and formulate a conclusion on the effects of temperature change on most substances. **Grade 8** **C. States of Matter** 1. **Develop an explanation for the effect that constant motion of atoms and molecules has on solids, liquids, and gases.** a. Based on data from investigations and video technology, describe and give reasons for what happens to a sample of matter when heat energy is added to it (most substances expand). b. Pose questions and seek answers that clarify understanding of the	differ in the movement of particles. Concepts and vocabulary include: plasma, crystalline and amorphous solids, viscosity, freezing, vaporization, evaporation, and condensation.	*Gas in Action* pages 28-29	Post Test pages 22-23 Vocabulary of *Solids, Liquids, and Gases* page 30

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on the motion of atoms and molecules. c. Formulate an explanation for the different characteristics of solid, liquids, and gases using an analysis of the data gathered on the motion and arrangement of atoms and molecules.			

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Grade 5 **D. Physical and Chemical Change** 1. **Provide evidence to illustrate that when a new material is made by combing two or more materials, its properties are different from the original materials.** a. Investigate and describe what happens to the properties of materials when several materials are combined to make a mixture, such as table salt and pepper; various kinds of nuts, chocolate pieces, and coconut. b. Based on observations from investigations and video technology, describe what happens to the observable properties of materials when several materials are combined to make a new material, such as: · Sugar dissolved in milk · Baking soda combined with	**Elements, Compounds, and Mixtures Video:** This program explains the vital role elements and compounds play in making up matter. Examples of different types of mixtures help students realize the important role they play in our lives Concepts and vocabulary include: elements, compounds, homogeneous and heterogeneous mixtures, colloid, suspension, solution,, solvent, and solute.	**Elements, Compounds, and Mixtures Guide:** *Comparing Compounds* pages 25-27 *Mixing Mixtures* pages 28-29	**Elements, Compounds, and Mixtures Guide:** Preliminary Test pages 19-20 Video Review page 21 Post Test pages 22-23 Vocabulary of *elements, Compounds and Mixtures* page 30

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vinegar **Grade 7** **A. Structure of Matter** 1. **Cite evidence to justify and support the fact that all matter is made up of atoms.** a. Provide evidence from investigations and research to demonstrate that groups of elements have similar properties.1 b. Provide examples to illustrate that elements are substances that do not breakdown during normal investigations involving heating, exposure to electric current or reactions with acids. c. Cite evidence to explain that all living and non-living things can be broken down to a set of know elements. **Grade 8** **D. Physical and Chemical Changes** 1. **Compare compounds and mixtures based on data from investigations and research.** a. Cite evidence from investigations to explain why the components			

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Maryland State Learning Standards	Video Title with Concepts and Vocabulary	Teacher's Guide Activities	Assessment Tools
separated using physical properties. c. Analyze the results of research completed to develop a comparison of compounds and mixtures.			
Grade 7 **A. Structure of Matter** 1. **Cite evidence to justify and support the fact that all matter is made up of atoms.** d. Ask and seek answers to questions about how molecules and element are produced.	**Atoms Video:** Many of the major scientific breakthroughs contributing to our understanding of atoms are highlighted. The basic structure of an atom is described via colorful diagrams and animations. Atomic number and atomic mass are also discussed. Concepts and vocabulary include: nucleus, neutron, proton, electron, energy level, electron cloud, atomic mass unit, and isotope.	**Atoms Guide:** *Modeling Atoms* pages 19-20 *History of the Atom* pages 27-29	**Atoms Guide:** Preliminary Test pages 19-20 Video Review page 21 Post Test pages 22-23 Vocabulary of *Atoms* page 30