New York Science

Physical Science - Crosscutting Concepts

Patterns CCC.1	**A**	**Macroscopic patterns are related tot he nature of microscopic and atomic-level structure.** CCC.1-1
	B	**Graphs, charts and images can be used to identify patterns in data.** CCC.1-2
Cause and effect CCC.2	**A**	**Cause and effect relationships may be used to predict phenomena in natural or designed systems.** CCC.2-1
Scale, proportion and quantity CCC.3	**A**	**Time, space and energy phenomena can be observed at various scales using models to study systems that are too large or too small.** CCC.3-1
	B	**Proportional relationships (e.g. speed as the ratio of distance traveled to time taken) among different types of quantities provide information about the magnitude of properties and processes.** CCC.3-2
Systems and system models CCC.4	**A**	**Models can be used to represent systems and their interactions - such as inputs, processes and outputs - and energy and matter flows within systems.** CCC.4-1
Energy and matter in systems CCC.5	**A**	**Matter is conserved because atoms are conserved in physical and chemical processes.** CCC.5-1
	B	**The transfer of energy can be tracked as energy flows through a designed or natural system.** CCC.5-2
	C	**Energy may take different forms (e.g. energy in fields, thermal energy, energy of motion).** CCC.5-3
Structure and function CCC.6	**A**	**Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.** CCC.6-1
	B	**Structures can be designed to serve particular functions.** CCC.6-2
Stability and change of systems CCC.7	**A**	**Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales.** CCC.7-1