

Grade 6 Science Massachusetts Standards

Earth and Space Science, Grades 6-8

	Mapping the Earth
1	Recognize, interpret, and be able to create models of the earth's common physical features in various mapping representations, including contour maps.
	Earth's History
6 *(Gr 6, 7)	Describe and give examples of ways in which the earth's surface is built up and torn down by natural processes, including deposition of sediments, rock formation, erosion, and weathering.
	The Earth in the Solar System
8 *(Gr 6, 8)	Recognize that gravity is a force that pulls all things on earth toward the center of the earth. Gravity plays a major role in the formation of the planets, stars, and solar system and in determining their motions.
9	Describe lunar and solar eclipses, the observed moon phases, and tides. Relate them to the relative positions of the earth, moon, and sun.
11	Explain how the tilt of the earth and its revolution around the sun result in an uneven heating of the earth, which in turn causes the seasons.

Life Science (Biology), Grades 6-8

	Classification of Organisms
1	Classify organisms into the currently recognized kingdoms according to characteristics that they share. Be familiar with organisms from each kingdom.
	Structure and Function of Cells
2	Recognize that all organisms are composed of cells, and that many organisms are single-celled (unicellular), e.g., bacteria, yeast. In these single-celled organisms, one cell must carry out all of the basic functions of life.
	Evolution and Biodiversity
12	Relate the extinction of species to a mismatch of adaptation and the environment.
	Living Things and Their Environment
13	Give examples of ways in which organisms interact and have different functions within an ecosystem that enable the ecosystem to survive.
	Energy and Living Things
14	Explain the roles and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
15	Explain how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.

**Physical Sciences (Chemistry and Physics),
Grades 6-8**

Properties of Matter	
1 *(Gr 6, 7)	Differentiate between weight and mass, recognizing that weight is the amount of gravitational pull on an object.
2	Differentiate between volume and mass. Define density.
3	Recognize that the measurement of volume and mass require understanding of the sensitivity of measurement tools (e.g., rulers, graduated cylinders, balances) and knowledge and appropriate use of significant digits.

Inquiry and Experimentation

Grades 6-8	
Inquiry 1	Formulate a testable hypothesis.
Inquiry 2	Design and conduct an experiment specifying variables to be changed, controlled, and measured.
Inquiry 3	Select appropriate tools and technology (e.g., calculators, computers, thermometers, meter sticks, balances, graduated cylinders, and microscopes), and make quantitative observations.
Inquiry 4	Present and explain data and findings using multiple representations, including tables, graphs, mathematical and physical models, and demonstrations.
Inquiry 5	Draw conclusions based on data or evidence presented in tables or graphs, and make inferences based on patterns or trends in the data.
Inquiry 6	Communicate procedures and results using appropriate science and technology terminology.
Inquiry 7	Offer explanations of procedures, and critique and revise them.