



InterActions in Physical Science Correlation to the Massachusetts Science Curriculum Framework, Grades 6-8

Physical Sciences (Chemistry and Physics)

Standards and Expected Performances	Location/Page where Standard is found
Properties of Matter	
1. Differentiate between weight and mass, recognizing that weight is the amount of gravitational pull on an object.	87-92, 233-235, 249-251, 230-232, 288-289
2. Differentiate between volume and mass. Define density.	79-82, 83-86, 87-92, 93-96, 288-289, 459-463, 102-106
3. Recognize that the measurement of volume and mass requires understanding of the sensitivity of measurement tools (e.g., rulers, graduated cylinders, balances) and knowledge and appropriate use of significant digits.	76-78, 79-82, 83-86, 87-92, 93-96, 288-289, 615-617, 624-625, 631-635, 641, 647-649, 8-11, 102, 106
4. Explain and give examples of how mass is conserved in a closed system.	288-289, 290-294, 298-301, 303-304, 560-568
Elements and Compounds	
5. Recognize that there are more than 100 elements that combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.	538-540, 541-545, 546-552, 390-395, 415-420, 584-585, 588-595, 596-600, 601-607
6. Differentiate between an atom (the smallest unit of an element that maintains the characteristics of that element) and a molecule (the smallest unit of a compound that maintains the characteristics of that compound).	517-522, 523-527, 426-427, 446-458
7. Give basic examples of elements and compounds.	415-420, 426-427, 428-430

8. Differentiate between mixtures and pure substances.	401-408, 409-414, 415-420, 426-427, 428-430
9. Recognize that a substance (element or compound) has a melting point and a boiling point, both of which are independent of the amount of the sample.	512-516, 318-324, 490-496, 497-500, 501-502, 503-507, 464-472, 473-479, 480-489
10. Differentiate between physical changes and chemical changes.	390-395, 396-400, 428-430, 512-516
Motion of Objects	
11. Explain and give examples of how the motion of an object can be described by its position, direction of motion, and speed.	136-243, 144-148, 149-154, 240-242
12. Graph and interpret distance vs. time graphs for constant speed.	136-143, 149-154
Forms of Energy	
13. Differentiate between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.	255-258, 168-173, 156-158, 159-161, 162-167, 553-559, 577-583, 112-113, 114-118, 119-125, 126-132, 133-136, 196-200
Heat Energy	
14. Recognize that heat is a form of energy and that temperature change results from adding or taking away heat from a system.	308-312, 313-317, 490-496, 577-583
15. Explain the effect of heat on particle motion through a description of what happens to particles during a change in phase.	490-496, 497-500, 512-516, 318-324, 501-502, 503-507, 464-472, 473-479, 480-489
16. Give examples of how heat moves in predictable ways, moving from warmer objects to cooler ones until they reach equilibrium.	308-312, 313-317, 490-496, 325-330, 325-329