

High School Science Tested Indicators

Indicator #	Text of Indicator	Physical or Life Science Test Component
S.HS.1.1.2	▲ actively engages in investigations, including developing questions, gathering and analyzing data, and designing and conducting research	P
S.HS.1.1.3	▲ actively engages in using technological tools and mathematics in their own scientific investigations.	P
S.HS.2A.1.1	▲ understands atoms, the fundamental organizational unit of matter, are composed of subatomic particles. Chemists are primarily interested in the protons, electrons, and neutrons found in the atom.	P
S.HS.2A.2.1	▲ understands chemists use kinetic and potential energy to explain the physical and chemical properties of matter on earth that may exist in any of these three states: solids, liquids, and gases.	P
S.HS.2A.2.2	▲ understands the periodic table lists elements according to increasing atomic number. This table organizes physical and chemical trends by groups, periods, and sub-categories.	P
S.HS.2A.2.3	▲ understands chemical bonds result when valence electrons are transferred or shared between atoms. Breaking a chemical bond requires energy. Formation of a chemical bond releases energy. Ionic compounds result from atoms transferring electrons. Molecular compounds result from atoms sharing electrons. For example, carbon atoms can bond to each other in chains, rings, and branching networks. Branched network and metallic solids also result from bonding.	P
S.HS.2A.3.1	▲ understands a chemical reaction occurs when one or more substances (reactants) react to form a different chemical substance(s) (products). There are different types of chemical reactions all of which demonstrate the Law of Conservation of Matter and Energy.	P
S.HS.2B.1.1	▲ understands Newton's Laws and the variables of time, position, velocity, and acceleration can be used to describe the position and motion of particles.	P
S.HS.2B.2.2	▲ understands the first law of thermodynamics states the total internal energy of a substance (the sum of all the kinetic and potential energies of its constituent molecules) will change only if heat is exchanged with the environment or work is done on or by the substance. In any physical interaction, the total energy in the universe is conserved.	P
S.HS.2B.3.2	▲ understands waves have energy and can transfer energy when they interact with matter.	P
S.HS.2B.3.5	▲ understands electromagnetic waves result when a charged particle is accelerated or decelerated.	P
S.HS.3.1.2	▲ understands cell functions involve specific chemical reactions.	L
S.HS.3.2.1	▲ understands living organisms contain DNA or RNA as their genetic material, which provides the instructions that specify the characteristics of organisms.	L

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Elementary Science Tested Indicators

Indicator #	Text of Indicator
S.4.1.1.1	▲ asks questions that he/she can answer by investigating
S.4.1.1.2	▲ plans and conducts a simple investigation
S.4.1.1.3	▲ employs appropriate equipment, tools, and safety procedures to gather data
S.4.1.1.4	▲ begins developing the abilities to communicate, critique, analyze his/her own investigations, and interprets the work of other students
S.4.2.1.1	▲ observes properties of objects and measures those properties using appropriate tools
S.4.2.1.2	▲ describes and <i>classifies</i> objects by more than one property
S.4.2.1.3	▲ observes and records how one object <i>interacts</i> with another object
S.4.2.1.4	▲ recognizes and describes the differences between solids, liquids, and gases
S.4.2.2.1 (This item not tested on KAMM)	▲ moves objects by pushing, pulling, throwing, spinning, dropping, and rolling; and describes the motion
S.4.2.3.1	▲ identifies that the source of sound is vibrations
S.4.2.4.1	▲ demonstrates that magnets attract and repel
S.4.2.4.3	▲ constructs a <i>simple circuit</i>
S.4.3.1.1	▲ observes different organisms and compares and contrasts how similar functions are served by different structural characteristics
S.4.3.1.2	▲ compares basic needs of different organisms in their environment
S.4.3.2.1	▲ compares, contrasts, and asks questions about life cycles of various organisms
S.4.4.1.1	▲ collects, observes <i>properties</i> , and <i>classifies</i> a variety of <i>earth materials</i> in his/her <i>environment</i>
S.4.4.1.3	▲ describes <i>properties</i> of water and process of the water cycle
S.4.4.2.3	▲ discusses that the sun provides light and heat (electromagnetic radiation) to maintain the temperature of the earth
S.4.4.3.1	▲ describes changes in the surface of the earth
S.4.4.3.2	▲ observes, describes, and records daily and seasonal weather changes
S.4.5.1.1	▲ identifies a simple <i>design problem</i> (designs a plan, implements the plan, evaluates the results, makes changes to improve the product, and communicates the results)
S.4.6.1.1	▲ discusses the nutritional value of various foods and their contribution to health

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7th Grade Science Tested Indicators

Indicator #	Text of Indicator
7.1.1.1	▲ identifies questions that can be answered through scientific investigations.
7.1.1.2	▲ designs and conducts <i>scientific investigations</i> safely using appropriate tools, mathematics, <i>technology</i> , and techniques to gather, analyze, and interpret data.
7.1.1.3	▲ identifies the relationship between evidence and logical conclusions.
7.1.1.4	▲ communicates scientific procedures, results and explanations.
7.1.3.2	▲ evaluates the work of others to determine evidence which scientifically supports or contradicts the results, identifying faulty reasoning or conclusions that go beyond evidence and/or are not supported by data.
7.2.1.1	▲ compares and classifies the states of matter; solids, liquids, gases, and plasma
7.2.2.1	▲ understands the relationship of atoms to elements and elements to compounds.
7.2.2.2	▲ measures and graphs the effects of temperature on matter.
7.2.3.2	▲ describes, measures, and represents data on a graph showing the motion of an object (position, direction of motion, speed).
7.2.3.3	▲ recognizes and describes examples of Newton's Laws of Motion.
7.2.3.4	▲ investigates and explains how simple machines multiply force at the expense of distance.
7.2.4.2	▲ understands that when work is done energy transforms from one form to another, including mechanical, heat, light, sound, electrical, chemical, and nuclear energy, yet is conserved.
7.2.4.3	▲ observes and communicates how light (electromagnetic) energy interacts with matter: transmitted, reflected, refracted, and absorbed.
7.2.4.4	▲ understands that heat energy can be transferred from hot to cold by radiation, convection, and conduction.
7.3.1.1	▲ will understand the cell theory; that all organisms are composed of one or more cells, cells are the basic unit of life, and that cells come from other cells.
7.3.1.2	▲ relates the structure of cells, organs, tissues, organ systems, and whole organisms to their functions
7.3.2.1	▲ differentiates between asexual and sexual reproduction of organisms.
7.3.3.1	▲ understands that internal and/or environmental conditions affect an organism's behavior and/or response in order to maintain and regulate stable internal conditions to survive in a continually changing environment.
7.3.4.1	▲ recognizes that all populations living together (biotic resources) and the physical factors (abiotic resources) with which they interact compose an ecosystem.

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EXIT



Science

Science Module 5 Questions

1. True or False?

All high school students must take the physical science and life science halves of the assessment during their 10th grade year.

False

2. True or False?

If our 9th graders don't meet standard on part of the science assessment, they can retest in 10th grade.

False

3. True or False?

If my 4th grader is taking the KAMM, he can be assessed over 3rd grade indicators.

False

