

# NATIONAL SCIENCE EDUCATION STANDARDS

## More Than Skin Deep! Skin Health Activity Handbook

<b>GRADE</b>	<b>CATEGORY</b>	<b>SUB-CATEGORY</b>	<b>STANDARD</b>
5-8	Earth and Space Science	Earth's History	The sun is the major source of energy for phenomena on the earth's surface, such as growth of planets, winds, ocean currents, and the water cycle.
5-8	History and Nature of Science	History Of Science	Tracing the history of science can show how difficult it was for scientific innovators to break through the accepted ideas of their time to reach the conclusions that we currently take for granted.
5-8	History and Nature of Science	Nature Of Science	In areas where active research is being pursued and in which there is not a great deal of experimental or observational evidence and understanding, it is normal for scientists to differ with one another about the interpretation of the evidence or theory being considered.
5-8	History and Nature of Science	Nature Of Science	Scientists formulate and test their explanations of nature using observation, experiments, and theoretical and mathematical models.
5-8	Life Science	Diversity And Adaptations Of Organisms	Biological evolution accounts for the diversity of species developed through gradual processes over many generations.
5-8	Life Science	Reproduction And Heredity	Every organism requires a set of instructions for specifying its traits. Heredity is the passage of these instructions from one generation to another.
5-8	Life Science	Reproduction And Heredity	Heredity information is contained in genes, located in the chromosomes of each cell. Each gene carries a single unit of information.
5-8	Life Science	Reproduction And Heredity	The characteristics of an organism can be described in terms of a combination of traits. Some traits are inherited and others result from interactions with the environment.
5-8	Life Science	Structure And Function In Living Systems	Disease is a breakdown in structures or functions of an organism. Some diseases are the result of intrinsic failures of the system. Others are the result of damage by infection by other organisms.

5-8	Life Science	Structure And Function In Living Systems	Specialized cells perform specialized functions in multicellular organisms. Groups of specialized cells cooperate to form a tissue, such as muscle. Different tissues are in turn grouped together to form larger functional units, called organs. Each type of cell, tissue, and organ has a distinct structure and set of functions that serve the organism as a whole.
5-8	Physical Science	Properties And Changes Of Properties In Matter	A substance has characteristic properties, such as density, a boiling point, and solubility, all of which are independent of the amount of the sample. A mixture of substances often can be separated into the original substances using one or more of the characteristic properties.
5-8	Physical Science	Properties And Changes Of Properties In Matter	Substances react chemically in characteristic ways with other substances to form new substances (compounds) with different characteristic properties. In chemical reactions, the total mass is conserved. Substances often are placed in categories or groups if they react in similar ways; metals is an example of such a group.
5-8	Physical Science	Transfer Of Energy	In most chemical and nuclear reactions, energy is transferred into or out of a system. Heat, light, mechanical motion, or electricity might all be involved in such transfers.
5-8	Physical Science	Transfer Of Energy	Light interacts with matter by transmission (including refraction), absorption, or scattering (including reflection). To see an object, light from that object-emitted by or scattered from it-must enter the eye.
5-8	Physical Science	Transfer Of Energy	The sun is a major source of energy for changes on the earth's surface. The sun loses energy by emitting light. A tiny fraction of that light reaches the earth, transferring energy from the sun to the earth. The sun's energy arrives as light with a range of wavelengths, consisting of visible light, infrared, and ultraviolet radiation.
5-8	Science and Technology	Abilities In Technical Design	Communicate the process of technological design.
5-8	Science and Technology	Abilities In Technical Design	Evaluate completed technological designs or products.

5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Design and conduct a scientific investigation.
5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Develop descriptions, explanations, predictions, and models using evidence.
5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Recognize and analyze alternative explanations and predictions.
5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Think critically and logically to make the relationships between evidence and explanations.
5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Use appropriate tools and techniques to gather and analyze, and interpret data.
5-8	Science as Inquiry	Abilities Necessary To Do Scientific Inquiry	Use mathematics in all aspects of scientific inquiry.
5-8	Science as Inquiry	Understandings About Scientific Inquiry	Different kinds of questions suggest different kinds of scientific investigations. Some investigations involve observing and describing objects, organisms, or events; some involve collecting specimens; some involve experiments; some involve discovery of new objects and phenomena; and some involve making models.
5-8	Science as Inquiry	Understandings About Scientific Inquiry	Mathematics is important in all aspects of scientific inquiry.
5-8	Science as Inquiry	Understandings About Scientific Inquiry	Science advances through legitimate skepticism. Asking questions and querying other scientists' explanations is part of scientific inquiry. Scientists evaluate the explanations proposed by other scientists by examining evidence, comparing evidence, identifying faulty reasoning, pointing out statements that go beyond the evidence, and suggesting alternative explanations for the same observations.
5-8	Science in Personal and Social Perspectives	Personal Health	The potential for accidents and the existence of hazards imposes the need for injury prevention.

5-8	Science in Personal and Social Perspectives	Risks And Benefits	Important personal and social decisions are made based on perceptions of benefits and risks.
5-8	Science in Personal and Social Perspectives	Risks And Benefits	Individuals can use a systematic approach to thinking critically about risks and benefits.
5-8	Science in Personal and Social Perspectives	Risks And Benefits	Risk analysis considers the type of hazard and estimates the number of people that might be exposed and the number likely to suffer consequences.
5-8	Science in Personal and Social Perspectives	Risks And Benefits	Science cannot answer all questions and technology cannot solve all human problems or meet all human needs.
5-8	Science in Personal and Social Perspectives	Risks And Benefits	Students should understand the risks associated with natural hazards (fires, floods, tornadoes, hurricanes, earthquakes, and volcanic eruptions), with chemical hazards (pollutants in air, water, soil, and food), with biological hazards (pollen, viruses, bacterial, and parasites), social hazards (occupational safety and transportation), and with personal hazards (smoking, dieting, and drinking).
5-8	Science in Personal and Social Perspectives	Science And Technology In Society	Societal challenges often inspire questions for scientific research, and social priorities often influence research priorities through the availability of funding for research.