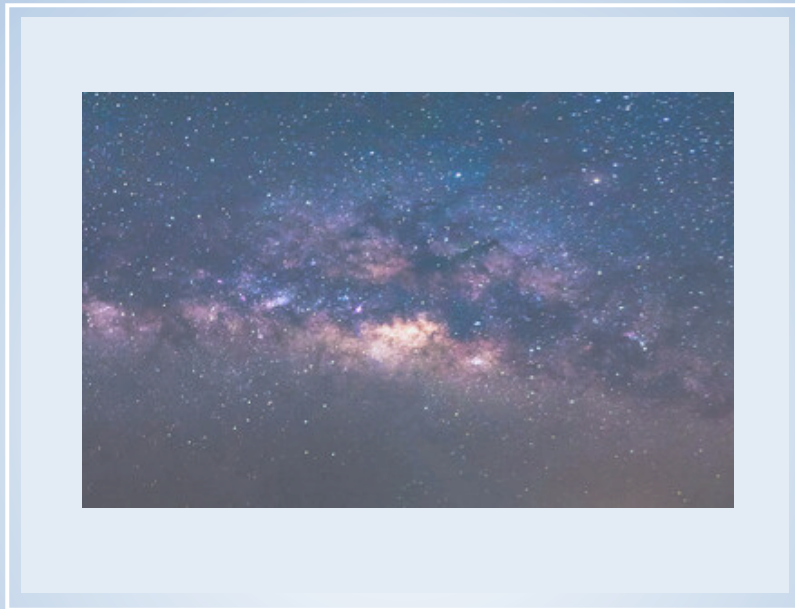


# SCIENCE SEQUENCE



FOR ELEMENTARY AND MIDDLE SCHOOL



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**This is not a checklist.** It is *not* expected that your child will study all of the topics on this list prior to High School. You don't need to cover every topic in science in order to provide an excellent science education—in fact, most people will not and *should not* attempt to do so. Much of the joy in learning science is found in slowing down and focusing on interests as they arise.



# ELEMENTARY • LIFE SCIENCE

## HUMAN BODY

- Learn that the body is made of different systems. Study the basic functions of the major systems: skeletal, muscular, digestive, excretory, nervous, and circulatory.
- Undertake a focused study of a few of the body’s systems. It is common to examine the circulatory and respiratory systems in greater depth. For a study of the circulatory system, explore the structure and function of the heart and learn all about blood. For a study of the respiratory system, explore the structure and function of the lungs and the process of respiration.
- Explore the five senses — vision, hearing, touch, smell, and taste.
- Learn the basics of human reproduction.

**Go to:** <https://www.besthomeschoolresources.com/human-body>

## CELLS & GENES

- Learn that living things are made of tiny cells.
- Learn that cells make tissues, tissues make organs, and organs make systems.
- Learn the basics of genes and inheritance. Read about Gregor Mendel, whose experiments with peas led him to develop his theories of inheritance.
- Learn that there are two main kinds of cells—prokaryotic and eukaryotic. Prokaryotic cells are much simpler than eukaryotes. Study diagrams of these different cell types and talk about their similarities and differences.
- Learn that both plant cells and animal cells are eukaryotic. Explore the similarities and differences between these kinds of cells. Learn about a few of the organelles in a eukaryotic cell, such as the chloroplasts, cell wall, nucleus, and cell membrane.

**Go to:** <https://www.besthomeschoolresources.com/cells-and-genes>

## MICROBES & DISEASE

- Learn the basics of microorganisms (such as bacteria). Understand that microorganisms (microbes) are incredibly small and are all around us. Some microbes are helpful to us but others can make us sick.
- Learn about germs and disease; discuss how illnesses are prevented and treated.

**Go to:** <https://www.besthomeschoolresources.com/microbes-disease>

## Elementary Life Science, continued

### PLANTS

- Learn that plants need sun, water, soil, and nutrients to survive.
- Learn about the life cycle of a plant—from seed to flower to fruit to seed.
- Study plants through observation. Go for nature walks, keep a nature journal, plant a garden, go apple picking, visit an arboretum, experiment with growing plants under different conditions.
- Learn the very basics of photosynthesis. Understand that plants harness the energy of the sun. Learn about why leaves change color in the fall.
- Explore the main parts of a plant.
- Learn about different kinds of plants and how they are adapted to their habitats.

**Go to:** <https://www.besthomeschoolresources.com/plants>

### ANIMALS

- Learn about the animal life cycle: birth to growth to reproduction to death.
- Learn about some different habitats—forest, meadow, tundra, desert, rainforest—and talk about how animals are adapted to their habitats.
- Study animals through observation. Go for nature walks and visit a local zoo, farm, or aquarium. Find citizen science projects that encourage you to observe wildlife in your own backyard.
- Learn the basics of food chains and food webs. Understand how energy flows from the sun through producers (plants) to consumers (animals) to decomposers.
- Discuss how we can classify animals according to different criteria—based on what they eat (herbivore, omnivore, carnivore), whether they are warm- or cold-blooded, or whether or not they have backbones (vertebrate or invertebrate).
- Learn the basics of animal reproduction and understand how different kinds of animals reproduce in different ways.
- Learn about the defining characteristics of the major vertebrate classes: fish, reptiles, amphibians, birds, and mammals (see Animal subpages).

**Go to:** <https://www.besthomeschoolresources.com/animals>

### BIRDS

- Learn some general facts about birds—birds build nests, lay eggs, have feathers, are (usually) able to fly, and may migrate.
- Study different kinds of bird, such as parrots, penguins, birds of prey, and songbirds.
- Study birds through observation. Consult a bird guide and identify the birds that frequent your neighborhood. Hang a bird feeder.

**Go to:** <https://www.besthomeschoolresources.com/birds>

## Elementary Life Science, continued

<p><b>MAMMALS</b></p>	<ul style="list-style-type: none"> <li>▪ Learn some general facts about mammals—mammals are warm-blooded, give birth to live young, and feed their babies milk.</li> <li>▪ Learn how mammals can give birth: placental, marsupial, or monotreme.</li> <li>▪ Undertake a focused study of a few different kinds of mammals, such as bats, bears, bison, cats, dogs, elephants, or primates.</li> </ul> <p><b>Go to:</b> <a href="https://www.besthomeschoolresources.com/mammals">https://www.besthomeschoolresources.com/mammals</a></p>
<p><b>INSECTS</b></p>	<ul style="list-style-type: none"> <li>▪ Learn some general facts about insects—insects have unique body plans, undergo metamorphosis, and can be beneficial and detrimental to humans.</li> <li>▪ Study insects through observation. Consult an insect guide and learn how to identify the insects living in your neighborhood. Study ant behavior with an ant farm and examine metamorphosis with a butterfly garden.</li> <li>▪ Undertake a focused study of a few different kinds of insects, such as ants, bees, beetles, butterflies, cicadas, or mosquitos.</li> <li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/insects">https://www.besthomeschoolresources.com/insects</a></li> </ul>
<p><b>OCEAN LIFE</b></p>	<ul style="list-style-type: none"> <li>▪ Learn about the vast diversity of life in the oceans. Discuss how phytoplankton power food chains and how different kinds of creatures are adapted to live at different depths.</li> <li>▪ Undertake a focused study of a few different ocean animals, such as jellyfish, cephalopods (octopus, squid), ocean mammals (whales, dolphins), fish, or sharks.</li> <li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/ocean-life">https://www.besthomeschoolresources.com/ocean-life</a></li> </ul>
<p><b>REPTILES &amp; AMPHIBIANS</b></p>	<ul style="list-style-type: none"> <li>▪ Learn some basic facts about amphibians and reptiles—discuss these animals’ habitats, reproduction, and behaviors. Understand the difference between a reptile and an amphibian.</li> <li>▪ Undertake a focused study of a few types of amphibians or reptiles, such as frogs, turtles, snakes, or alligators.</li> <li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/reptiles-amphibians">https://www.besthomeschoolresources.com/reptiles-amphibians</a></li> </ul>
<p><b>DINOSAURS</b></p>	<ul style="list-style-type: none"> <li>▪ Learn that dinosaurs were reptiles that went extinct 65 million years ago.</li> <li>▪ Learn about Earth during the Age of the Dinosaurs—the climate, the plants and animals, and the landforms.</li> <li>▪ Learn about the field of paleontology and how we know about the creatures that lived long ago.</li> <li>▪ Get to know some well-loved dinosaur species, such as stegosaurus, triceratops, and T-Rex.</li> <li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/dinosaurs">https://www.besthomeschoolresources.com/dinosaurs</a></li> </ul>

## Elementary Life Science, continued

### EVOLUTION

- Learn the basic concepts of evolution. Understand that evolutionary change occurs over unimaginably long periods of time.
- Read about some of the creatures that lived on Earth many eons ago, from ancient single-celled organisms to giant bugs to dinosaurs (see above).
- Understand that humans and living apes share a (relatively) recent common ancestor and that our species evolved in Africa hundreds of thousands of years ago.
- Read about Charles Darwin, his journey on the *Beagle*, and his development of the Theory of Evolution.

**Go to:** <https://www.besthomeschoolresources.com/evolution>



## ELEMENTARY • EARTH & SPACE

### GEOLOGY

- Learn that Earth has different layers—inner core, outer core, mantle and crust.
- Study rocks and minerals. Learn that rocks can be classified as sedimentary, metamorphic, or igneous. Start a rock collection.
- Learn that Earth is over 4 billion years old; discuss how the movement of tectonic plates causes the continents to very slowly drift. Watch animations that show how the surface of the planet has changed over time.
- Read about fossils and how they teach us about the animals that lived long ago.
- Explore some of the planet’s major geological features, including mountains, oceans, caves, rivers, volcanoes, and earthquakes.

**Go to:** <https://www.besthomeschoolresources.com/geology>

### METEOROLOGY

- Observe how the weather changes from day to day and from season to season.
- Study some common (and less common) weather events, including snow, rain, thunderstorms, tornadoes, and hurricanes.
- Read about the water cycle.
- Learn about three main kinds of clouds—cirrus, cumulus, stratus. Practice identifying clouds by appearance.
- Learn that air is made up of invisible gases.

**Go to:** <https://www.besthomeschoolresources.com/meteorology>

### CLIMATE CHANGE

- Learn that human activity, namely the burning of fossil fuels, is causing the climate to change. Explore the greenhouse effect.
- Discuss the impacts of climate change on Earth’s living creatures.
- Talk about steps that humans can take to mitigate the impacts of climate change, including developing alternative energy sources.

**Go to:** <https://www.besthomeschoolresources.com/climate-change>



## Elementary Earth & Space, continued

<p><b>CONSERVATION</b></p>	<ul style="list-style-type: none"><li>▪ Learn about how living things are connected to one another, and understand the importance of biodiversity.</li><li>▪ Discuss how Earth’s ecosystems are threatened by pollution, climate change, and habitat destruction.</li><li>▪ Read about some well-known conservationists, such as John Muir and Rachel Carson.</li></ul> <p><b>Go to:</b> <a href="https://www.besthomeschoolresources.com/conservation">https://www.besthomeschoolresources.com/conservation</a></p>
<p><b>SOLAR SYSTEM</b></p>	<ul style="list-style-type: none"><li>▪ Learn about the solar system. Read about the sun, the moon, and the planets.</li><li>▪ Understand the force of gravity and how it keeps the planets orbiting the sun.</li><li>▪ Learn about the phases of the moon. Learn about the moon landing.</li><li>▪ Discuss Earth’s place in the solar system. Learn about Earth’s rotation and its revolution around the sun. Talk about why we have seasons, night and day, tides, and lunar and solar eclipses.</li><li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/solar-system">https://www.besthomeschoolresources.com/solar-system</a></li></ul>
<p><b>UNIVERSE</b></p>	<ul style="list-style-type: none"><li>▪ Set up a telescope and stargaze in the backyard. Identify some common constellations.</li><li>▪ Learn about stars and galaxies. Understand that the sun is a star.</li><li>▪ Learn that the universe is over 13 billion years old. Discuss the Big Bang Theory for the origin of the universe.</li><li>▪ Learn about some important astronomers and their contributions to our understanding of the universe.</li><li>▪ <b>Go to:</b> <a href="https://www.besthomeschoolresources.com/universe">https://www.besthomeschoolresources.com/universe</a></li></ul>



## ELEMENTARY • CHEMISTRY

### ATOMS & MOLECULES

- Learn that everything is made of tiny particles called atoms.
- Learn that each atom is made of positively charged protons, negatively charged electrons, and uncharged neutrons.
- Learn that there are about 100 different types of atoms; these are the elements. Pick a few elements to study in more detail. Learn a bit about the development and organization of the Periodic Table.
- Learn that atoms can bond together to make molecules.

**Go to:** <https://www.besthomeschoolresources.com/atoms-and-molecules>

### MATTER

- Learn that there are three main states of matter—solid, liquid, and gas. (Students may also enjoy learning about plasma, a fourth state of matter.)
- Experiment with the phenomenon of “freezing point depression”—the lowering of the freezing point of a liquid when a salt is added to it.
- Learn that substances can undergo physical change (changing from a solid to a liquid, for example) or chemical change (changing from one kind of molecule to another through a chemical reaction).
- Learn that matter has physical properties, such as color, density, melting point, ability to dissolve in water, and hardness. Practice describing the physical properties of different materials.
- Experiment with density—determine whether a material floats or sinks in water.

**Go to:** <https://www.besthomeschoolresources.com/matter>

### CHEMICAL REACTIONS

- Learn that a chemical reaction involves a chemical change from one kind of molecule to another. The molecules at the start are called reactants and the molecules that are formed in the reaction are called the products.
- Experiment with acid-base chemistry. Learn that in an acid-base reaction, one molecule (the acid) gives a proton (hydrogen) to another molecule (the base).
- Experiment with other types of chemical reactions, such as oxidation-reduction reactions (forming rust) and precipitation reactions, in which the product precipitates out of the solution as a solid.

**Go to:** <https://www.besthomeschoolresources.com/chem-reactions>





## Elementary Chemistry, continued

### WATER & SOLUTIONS

- Learn the basics of polar and nonpolar substances. Understand the polar (water) and nonpolar (oil) liquids do not mix—try experimenting with this property.
- Learn that water has many special properties that make it unique. Learn the basics of water molecule cohesion, adhesion, and surface tension.
- Learn that certain solids can dissolve in water to make a solution. Experiment with making solutions and evaporating water from solutions to form crystals.
- Learn that mixtures can be separated out through different techniques. Experiment with some separation techniques such as chromatography.

**Go to:** <https://www.besthomeschoolresources.com/water-solutions>



# ELEMENTARY • PHYSICS

## FORCES & ENERGY

- Develop a basic understanding of forces; learn about the relationship between force and motion.
- Learn about some different forms of energy, including heat and light.
- Learn that heat can move through conduction, convection, and radiation.
- Try out some hands-on experiments (or online simulations) to better grasp the concepts of force, energy, friction, and inertia.
- Experiment with simple machines—the inclined plane, lever, screw, wedge, and wheel.
- Learn about the force of gravity and its importance to our daily lives.

**Go to:** <https://www.besthomeschoolresources.com/forces-energy>

## ELECTRICITY & MAGNETS

- Learn about and experiment with electricity, circuits, and conductivity. Try building circuits (a Snap Circuit kit comes in handy) and figuring out what types of materials are good conductors of electricity.
- Learn about static electricity. Try out some simple experiments or online simulations to illustrate these ideas.
- Understand the connection between electricity and electrons—electricity is the flow of electrons.
- Learn about magnets; experiment with making magnets and compasses.
- Understand the connection between electricity, magnets, and batteries.

**Go to:** <https://www.besthomeschoolresources.com/electricity-magnets>

## AIR & GASES

- Learn about air pressure, air resistance, and the relationship between temperature and air pressure. Explore the principles of flight.

**Go to:** <https://www.besthomeschoolresources.com/air-gases>

## SOUND & LIGHT

- Learn the basics of waves.
- Study the basic properties of light. Learn about different light sources, understand that light travels at a specific speed, and understand that light can reflect or refract off from other objects. Experiment with mirrors, opaque and transparent objects, lenses, prisms, and the color spectrum.
- Explore the properties of sound; learn that sound travels in waves and is caused by vibrations. Try experiments that illuminate the properties of sound waves.

**Go to:** <https://www.besthomeschoolresources.com/sound-light>



# MIDDLE SCHOOL • LIFE SCIENCE

<b>HUMAN BODY</b>	<ul style="list-style-type: none"><li>▪ Learn about the function of each of the major body systems – skeletal, muscular, digestive, excretory, nervous, renal, integumentary, respiratory, immune and circulatory.</li><li>▪ Pick a few major systems to examine in greater detail; study the organs and other components of these systems.</li><li>▪ Learn about germs and the immune system; understand how the immune system protects the body against harmful bacteria and viruses. Learn about antibodies, antigens, and immunity.</li><li>▪ Discuss adolescence, the endocrine system, and the reproductive system.</li></ul> <p><b>Go to:</b> <a href="https://www.besthomeschoolresources.com/human-body">https://www.besthomeschoolresources.com/human-body</a></p>
<b>CELLS &amp; GENES</b>	<ul style="list-style-type: none"><li>▪ Understand the difference between prokaryotes (simple cells without membrane-bound organelles) and eukaryotes (more complex cells).</li><li>▪ Understand the differences between plant and animal cells.</li><li>▪ Learn about the major organelles and their unique roles in the operation of the eukaryotic cell. Major organelles are the nucleus, nuclear membrane, cytoplasm, cell membrane, vacuoles, Golgi apparatus, lysosomes, rough and smooth endoplasmic reticulum, mitochondria, cell wall, and chloroplasts (the latter two are only present in plant cells).</li><li>▪ Learn about the processes of mitotic and meiotic cell division.</li><li>▪ Study the principles of inheritance and genetics.</li><li>▪ Learn about the relationship between genes, chromosomes, and DNA.</li><li>▪ Learn the basics of transcription (DNA→RNA) and translation (RNA→protein).</li></ul> <p><b>Go to:</b> <a href="https://www.besthomeschoolresources.com/cells-and-genes">https://www.besthomeschoolresources.com/cells-and-genes</a></p>
<b>MICROBES &amp; DISEASE</b>	<ul style="list-style-type: none"><li>▪ Study microorganisms; learn about how microbes can be both beneficial and detrimental to our health.</li><li>▪ Learn about bacterial and viral infection and the development of germ theory.</li><li>▪ Learn about vaccines and how they work.</li></ul> <p><b>Go to:</b> <a href="https://www.besthomeschoolresources.com/microbes-disease">https://www.besthomeschoolresources.com/microbes-disease</a></p>

## Middle School Life Science, continued

### PLANTS

- Study the basics of plant structure and function; understand the difference between vascular and nonvascular plants.
- Explore photosynthesis; understand the roles of chloroplasts and chlorophyll.
- Study modes of plant reproduction; learn about the difference between spores, nonflowering vascular plants, and flowering vascular plants.
- Continue to study plants through observation—keep a nature journal, plant a garden, visit an arboretum, experiment with growing plants under different conditions, participate in a Citizen Science project.

**Go to:** <https://www.besthomeschoolresources.com/plants>

### ANIMALS

- Learn about taxonomy, the system by which we classify living things by domain, kingdom, phylum, class, order, family, genus, and species. Understand Latin naming systems.
- Learn how organisms interact in ecosystems. Understand the concepts of coexistence, cooperation, competition, symbiosis, and limiting factors.
- Continue to study animals through observation—visit a local zoo, farm, or aquarium. Find Citizen Science projects that encourage you to observe wildlife in your own backyard.
- Study food chains and food webs. Understand in more detail how energy flows from the sun through producers (plants) to consumers (animals) to decomposers.
- Study, in more detail, each of the major vertebrate and invertebrate groups: birds, mammals, insects, reptiles, and amphibians. A unit on reptiles can include a study of the dinosaurs.
- Learn about ocean life; study the different life zones that exist at different ocean depths.

**Go to:** <https://www.besthomeschoolresources.com/animals>

### EVOLUTION

- Learn about Charles Darwin, his journey on the *Beagle*, and his groundbreaking work, *On the Origin of the Species*.
- Understand the concepts of natural selection, evolution, extinction, and speciation.
- Study the evolutionary history of life on Earth; learn how fossils help us understand our past.

**Go to:** <https://www.besthomeschoolresources.com/evolution>



## MIDDLE SCHOOL • EARTH & SPACE

### GEOLOGY

- Learn the basic composition of each of Earth’s layers: inner core, outer core, mantle, and crust.
- Learn about Earth’s systems—geosphere, hydrosphere, atmosphere and biosphere—and how they interact
- Study rocks and minerals. Understand that rocks can be classified as sedimentary, metamorphic, or igneous.
- Learn about Wegener’s theory of plate tectonics and understand the role of tectonics in continental drift.
- Learn about the geologic processes that lead to volcanoes, earthquakes, mountains, caves, canyons, and rivers. Study weathering and erosion.
- Learn about the characteristics of the different layers of the ocean, the composition of seawater, and the currents, tides, and waves.

**Go to:** <https://www.besthomeschoolresources.com/geology>

### METEOROLOGY

- Learn about air pressure and wind.
- Identify three different types of clouds: cirrus, cumulus, stratus.
- Learn about the layers of the atmosphere: troposphere, stratosphere, mesosphere, and ionosphere.
- Understand the difference between weather and climate.

**Go to:** <https://www.besthomeschoolresources.com/meteorology>

### CLIMATE CHANGE

- Understand that human activity, namely the burning of fossil fuels, is causing the climate to change. Learn about the greenhouse effect and be able to explain why the burning of fossil fuels is changing the climate.
- Discuss the impacts of climate change on Earth’s living creatures.
- Talk about steps that humans can take to mitigate the impacts of climate change, including developing alternative energy sources.

**Go to:** <https://www.besthomeschoolresources.com/climate-change>

### CONSERVATION

- Continue to develop an understanding of how living things are connected to one another; recognize the importance of biodiversity.
- Discuss how Earth’s ecosystems are threatened by pollution, climate change, introduction of invasive species, and habitat destruction.

**Go to:** <https://www.besthomeschoolresources.com/conservation>



## Middle School Earth & Space, continued

### SOLAR SYSTEM

- Understand Earth's place in the solar system. Learn about Earth's rotation and revolution around the sun. Be able to explain why we have seasons, night and day, tides, phases of the moon, and lunar and solar eclipses.
- Learn about the history of the solar system. Learn about the formation of the sun, the planets, and the moon.
- Learn about asteroids, meteors, and comets.
- Study the history of space exploration.
- Understand the chemical processes (nuclear fusion) occurring inside the sun.

**Go to:** <https://www.besthomeschoolresources.com/solar-system>

### UNIVERSE

- Understand gravity and how it affects the motion of very large objects.
- Learn about stars and understand that the sun is a star.
- Study the classification and life cycle of stars. Learn about supernovas, red giants, black holes, neutron stars, pulsars, quasars, and white dwarfs.
- Set up a telescope and stargaze in the backyard. Learn how to identify some common constellations.
- Learn that the universe is over 13 billion years old; study the Big Bang Theory for the origin of the universe.

**Go to:** <https://www.besthomeschoolresources.com/universe>



## MIDDLE SCHOOL • CHEMISTRY

### ATOMS & MOLECULES

- Understand that everything is made of tiny particles called atoms and that atoms are composed of positively charged protons, negatively charged electrons, and uncharged neutrons. There are approximately 100 types of atoms; these are the elements.
- Learn about the development of the Periodic Table; understand atomic weight, atomic number, and atomic symbol and be able to use the Periodic Table.
- Describe some defining characteristics of metals and nonmetals.
- Learn how atoms may bond together to make molecules of different shapes. Understand the difference between atoms, molecules, and compounds.
- Explore different types of chemical bonds—ionic, covalent and metallic.

**Go to:** <https://www.besthomeschoolresources.com/atoms-and-molecules>

### MATTER

- Understand states of matter in terms of the activity of molecules or atoms. Correlate phase changes with the addition or removal of heat from a system.
- Learn that substances can undergo physical change (changing from a solid to a liquid, for example) or chemical change (changing from one kind of molecule to another through a chemical reaction).
- Understand that matter has physical properties, such as density, melting point, solubility in water, and hardness.
- Learn the Law of Conservation of Matter.

**Go to:** <https://www.besthomeschoolresources.com/matter>

### CHEMICAL REACTIONS

- Learn that a chemical reaction involves a chemical change from one kind of molecule to another. The molecules at the start are called reactants and the molecules that are formed in the reaction are called the products.
- Experiment with acid-base chemistry. Learn that in an acid-base reaction, one molecule (the acid) gives a proton (hydrogen) to another molecule (the base). Learn about the pH scale and experiment with measuring the pH of a solution.
- Experiment with other types of chemical reactions, such as oxidation-reduction reactions and precipitation reactions.
- Understand how a catalyst can speed up a chemical reaction.

**Go to:** <https://www.besthomeschoolresources.com/chem-reactions>



## Middle School Chemistry, continued

### WATER & SOLUTIONS

- Experiment with properties of solutions, including concentration, saturation, and crystallization.
- Understand, at the molecular level, why some substances are polar while others are nonpolar. Be able to explain why nonpolar and polar substances don't mix.
- Learn that water has many properties that make it unique. Learn about water molecule cohesion, adhesion, and surface tension.
- Learn that mixtures can be separated through different techniques. Experiment with separation techniques such as chromatography and distillation.
- **Go to:** <https://www.besthomeschoolresources.com/water-solutions>





# MIDDLE SCHOOL • PHYSICS

## FORCES & ENERGY

- Understand the difference between potential and kinetic energy.
- Learn the Law of Conservation of Energy.
- Learn about inertia and different forms of energy, including mechanical, chemical, light, and heat.
- Study different energy sources, including renewable (solar, wind, geothermal) and nonrenewable (fossil fuel) sources (see also *Climate Change*).
- Learn how heat energy is transferred by conduction, convection, and radiation.
- Understand how energy is transferred; study phase changes, expansion, and contraction.
- Understand force and motion; define velocity, speed, gravity, elasticity, and friction.
- Study the concepts of work, energy, and power; understand that work = force x distance and that power = work ÷ time.

**Go to:** <https://www.besthomeschoolresources.com/forces-energy>

## ELECTRICITY & MAGNETS

- Learn about (and experiment with) static and flowing electricity, circuits, conductors, and insulators.
- Understand the connection between electricity, magnets, and electrons.

**Go to:** <https://www.besthomeschoolresources.com/electricity-magnets>

## AIR & GASES

- Understand air pressure, air resistance, and the relationship between temperature and air pressure. Study, in more detail, the principles of flight.
- Study the properties of gases.

**Go to:** <https://www.besthomeschoolresources.com/air-gases>

## SOUND & LIGHT

- Learn about light waves, electromagnetic radiation, and the electromagnetic spectrum.
- Explore absorbance, refraction, and reflection of light. Understand how a prism works.
- Learn about the general properties of waves; define transverse and longitudinal waves, wavelength, frequency, and amplitude.
- Learn about wave interference, resonance, and the Doppler effect.

**Go to:** <https://www.besthomeschoolresources.com/sound-light>