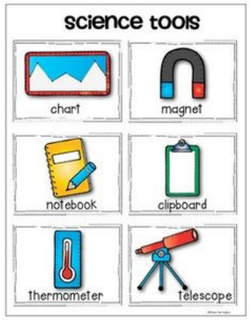
Science Topics

Physical Science

- ★ **Force and Motion**
- ★ **Energy Resources**
- ★ **Light Energy**
- ★ **Mixing Matter**

Electricity and Magnetism

Process Science



- ★ **Tools**
- ★ **Skills**

Layout Design & Collaboration

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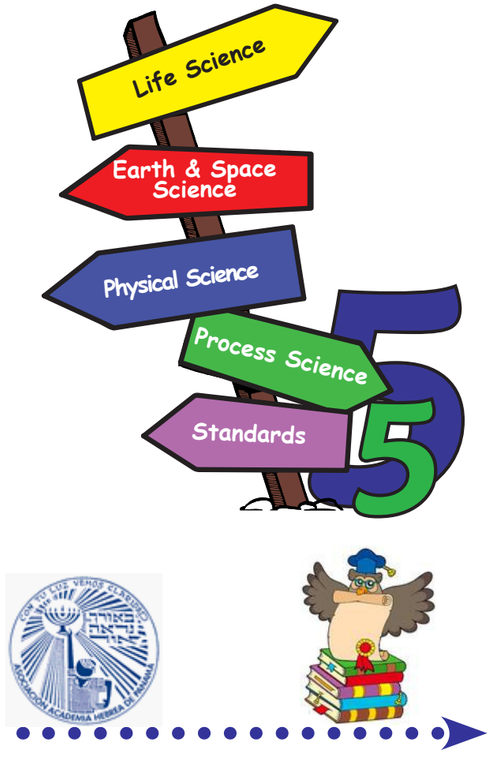
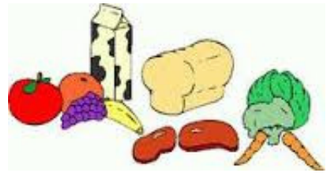
Grade 5

Science Expectations



Science Topics

Life Science



- ★ **Food Chains**
- ★ **Adaptations**
- ★ **Food and Nutrition**
- ★ **Inside Living Things**

Earth and Space Science

- ★ **Outside the Solar System**
- ★ **Atmosphere and Climate**
- ★ **Changing Landforms**
- ★ **Water**

My checklist of what I can do in 5th grade science . . . . . .

Life Science . . . . . .

Life Science units teach students about the living world around them and how organisms interact with one another.

- ☐ SC.5.L.14.: Organization and Development of Living Organisms - A. All plants and animals, including humans, are alike in some ways and different in others. B. All plants and animals, including humans, have internal parts and external structures that function to keep them alive and help them grow and reproduce. C. Humans can better understand the natural world through careful observation.
- ☐ SC.5.L.14.1.: Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs
- ☐ SC.5.L.14.2.: Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support.
- ☐ SC.5.L.15.: Diversity and Evolution of Living Organisms - A. Earth is home to a great diversity of living things, but changes in the environment can affect their survival. B. Individuals of the same kind often differ in their characteristics and sometimes the differences give individuals an advantage in surviving.
- ☐ SC.5.L.15.1.: Describe how, when the environment changes, differences between individuals allow some plants and animals to survive while others die or move to new locations.
- ☐ SC.5.L.17.: Interdependence - A. Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs. B. Both human activities and natural events can have major impacts on the environment. C. Energy flows from the sun through producers to consumers.
- ☐ SC.5.L.17.1.: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.

How to use checklist:

- Show the date of when you were able to do the math expectation.
- Show an example of what you did in a journal.

Earth and Space Science . . . . . .

Earth and Space Science units teach students about features, materials, and processes on Earth and in outer space.

- ☐ SC.5.E.5.: Earth in Space and Time - Humans continue to explore Earth's place in space. Gravity and energy influence the formation of galaxies, including our own Milky Way Galaxy, stars, the Solar System, and Earth. Humankind's need to explore continues to lead to the development of knowledge and understanding of our Solar System.
- ☐ SC.5.E.5.1.: Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way.
- ☐ SC.5.E.5.2.: Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets.
- ☐ SC.5.E.5.3.: Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.
- ☐ SC.5.E.7.: Earth Systems and Patterns - Humans continue to explore the interactions among water, air, and land. Air and water are in constant motion that results in changing conditions that can be observed over time.
- ☐ SC.5.E.7.1.: Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another.
- ☐ SC.5.E.7.2.: Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes.
- ☐ SC.5.E.7.3.: Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.
- ☐ SC.5.E.7.4.: Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.

Physical Science . . . . . .

Physical Science units teach students about the nature and properties of energy, forces, and matter.

- ☐ SC.5.P.8.: Properties of Matter - A. All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass. B. Objects and substances can be classified by their physical and chemical properties. Mass is the amount of matter (or "stuff") in an object. Weight, on the other hand, is the measure of force of attraction (gravitational force) between an object and Earth.
- ☐ SC.5.P.8.1.: Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.
- ☐ SC.5.P.8.2.: Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process.
- ☐ SC.5.P.8.3.: Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.
- ☐ SC.5.P.9.: Changes in Matter - A. Matter can undergo a variety of changes. B. Matter can be changed physically or chemically.
- ☐ SC.5.P.9.1.: Investigate and describe that many physical and chemical changes are affected by temperature.
- ☐ SC.5.P.10.: Forms of Energy - A. Energy is involved in all physical processes and is a unifying concept in many areas of science. B. Energy exists in many forms and has the ability to do work or cause a change.
- ☐ SC.5.P.10.1.: Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.
- ☐ SC.5.P.10.2.: Investigate and explain that energy has the ability to cause motion or create change.
- ☐ SC.5.P.10.3.: Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.
- ☐ SC.5.P.10.4.: Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.

Physical Science (continued) . . . . . .

- ☐ SC.5.P.11.: Energy Transfer and Transformations - A. Waves involve a transfer of energy without a transfer of matter. B. Water and sound waves transfer energy through a material. C. Light waves can travel through a vacuum and through matter.
- ☐ SC.5.P.11.1.: Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).
- ☐ SC.5.P.11.2.: Identify and classify materials that conduct electricity and materials that do not.
- ☐ SC.5.P.13.: Forces and Changes in Motion - A. It takes energy to change the motion of objects. B. Energy change is understood in terms of forces--pushes or pulls. C. Some forces act through physical contact, while others act at a distance.
- ☐ SC.5.P.13.1.: Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.
- ☐ SC.5.P.13.2.: Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.

Process Science . . . . . .

Process Science units teach students about the tools and skills necessary to conduct investigations and find answers.

- ☐ SC.5.N.1.: The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.
- ☐ SC.5.N.1.1.: Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- ☐ SC.5.N.1.2.: Explain the difference between an experiment and other types of scientific investigation.
- ☐ SC.5.N.1.3.: Recognize and explain the need for repeated experimental trials.
- ☐ SC.5.N.1.4.: Identify a control group and explain its importance in an experiment.