

Jemez Valley Public Schools
FIFTH GRADE SCIENCE • CONTENT MAP

Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Content Standard: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting and validating to think critically. Strand 1: Scientific Thinking and Practice			
<ul style="list-style-type: none"> Understand that different kinds of investigations are used to answer different kinds of questions. (year long) Plan and conduct investigations, including formulating testable questions, making systematic observations, developing logical conclusions, and communicating findings. (year long) Use appropriate technologies to perform scientific tests and to collect and display data. (year long) Use appropriate units to make precise and varied measurements. (year long) Use mathematical skills to analyze data. (year long) 	<ul style="list-style-type: none"> Describe how credible scientific investigations use reproducible elements including single variables, controls, and appropriate sample sizes to produce valid scientific results. (year long) Make predictions based on analyses of data, observations, and explanations. (year long) Use graphic representations (e.g., charts, graphs, tables, labeled diagrams, and Venn diagrams) to present data and produce explanations for investigations. (year long) Communicate the steps and results of a scientific investigation. (year long) 	<ul style="list-style-type: none"> Understand that scientific conclusions are subject to peer and public review. (year long) Examine how predictions and conclusions are based on data 	<ul style="list-style-type: none"> Discuss how scientific knowledge is continually reviewed, critiqued and revised as new data become available Identify probabilities, patterns and relationships to explain data and observations
Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Standard: (Physical Science) Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy. Strand 2: Content of Science			
<ul style="list-style-type: none"> Describe properties of the three states of matter. (year long) Describe how matter changes from one phase to another. (year long) Know that there are different forms of energy. (year long) Know that matter is made up of particles that can combine to form molecules and that these particles are too small to see with the naked eye. (year long) Know that heat is transferred from hotter to cooler materials or regions until both reach the same temperature. (year long) 	<ul style="list-style-type: none"> Describe the relative location and motion of the particles in each state of matter. (year long) Identify forces in nature. (year long) Understand that when a force acts on an object, the object speeds up, slows down, or goes in a different direction. (year long) Know that heat is often produced as a by-product when one form of energy is converted to another form. (year long) Identify simple machines and describe how they give advantage to the user (year long) Explain the relationship between temperature and the motion of particles in each state of matter. (year long) Describe how energy can be stored and converted to a different form of energy and know that machines and living things convert stored energy to motion and heat. (year long) 	<ul style="list-style-type: none"> Describe simple machines and how they give advantages to users. (year long) Understand how the rate of change of position is the velocity of an object in motion. (year long) Know that the periodic table is a chart of the pure elements that make up all matter. (year long) Recognize that acceleration is the change in velocity with time. (year round) Explore how heat energy can be transferred through conduction, radiation, and convection 	<ul style="list-style-type: none"> Know that there are many forms of energy transfer but that the total amount of energy is conserved Discuss the concept of gravitational force and how every object exerts gravitational force on every other object dependent on the masses and distance of separation

Jemez Valley Public Schools
FIFTH GRADE SCIENCE • CONTENT MAP

Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Standard: (Life Science) Understand the properties, structures, and processes of living things and the interdependence of living things and their environments Strand 3: Content of Science			
<ul style="list-style-type: none"> ● Identify the components of habitats and ecosystems. ● Describe how human activity impacts the environment. ● Know that plants and animals have life cycles that include birth, growth, and development, reproduction, and death and that these cycles differ for different organisms. ● Know that changes in the environment can have different effects on different organisms. ● Identify characteristics of an organism that are inherited from its parents and other characteristics that are learned or result from interactions with the environment. 	<ul style="list-style-type: none"> ● Understand how food webs depict relationships between different organisms. ● Understand that heredity is the process by which traits are passed from one generation to another. ● Understand that all living organisms are composed of cells from one to many trillions, and that cells are usually only visible through a microscope. 	<ul style="list-style-type: none"> ● Describe the relationships among cells, tissues, organs, organ systems, whole organisms, and the ecosystems. ● Know that some organisms are made of a collection of similar cells that cooperate while other organisms are made of cells that are different in appearance and function. ● Discuss how organisms have adapted to various environmental conditions. 	<ul style="list-style-type: none"> ● Explore how species have responded to changing environmental conditions over time (e.g., extinction, adaptation). ● Identify how fossil fuels were formed from animal and plant cells.
Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Standard: (Earth Science) Understand the structure of the Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of the Earth's systems. Strand 4 : Content of Science			
	<ul style="list-style-type: none"> ● Know that many objects in the universe are huge and are separated from one another by vast distances. ● Know that most of Earth's surface is covered by water, that most of the water is salt water in oceans, and that fresh water is found in rivers, lakes, underground sources, and glaciers. ● Understand that Earth is part of a larger solar system, which is part of an even larger galaxy, which is one of many galaxies. ● Understand that water and air related to Earth's processes, including (a), how the water cycle relates to weather and, (b) how clouds are made of tiny droplets of water, like fog or steam. 	<ul style="list-style-type: none"> ● Know that there have been manned and unmanned journeys to space and to the moon. Know that air is a substance that surrounds Earth, takes up space, and moves, and that temperature fluctuation and other factors produce wind currents. ● Recognize that the seasons are caused by Earth's motion around the sun and the tilt of Earth's axis of rotation. ● Discuss the sizes, temperatures, and color of galaxies ● Identify components of the Solar System 	<ul style="list-style-type: none"> ● Identify the rotation and revolution of the Earth, sun, moon, and planets ● Locate the Solar System in the Milky Way galaxy

Jemez Valley Public Schools
FIFTH GRADE SCIENCE • CONTENT MAP

Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Standard: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies. Strand 5: Science and Society			
	<ul style="list-style-type: none"> Describe the contributions of science to understanding local or current issues (e.g., recycling and pollution) (year long). 	<ul style="list-style-type: none"> Describe how various technologies have affected the lives of individuals (e.g., medicine, vaccinations). (year long). Discuss the role of scientific knowledge in decisions. Use graphic representation to discuss the impact of scientific discoveries. 	<ul style="list-style-type: none"> Describe technologies which are responsible for revolutionizing information processing and communications (e.g., robotic engineering and communications)