

Science and Music Project

Potential Topic List

Astronomy	
<i>Topic</i>	<i>Description</i>
Big Bang Theory	<i>Discuss the Big Bang Theory along with any other theories that try to explain how the universe came to be</i>
Constellations	<i>Discuss constellations and the many different types that exist</i>
Galaxies	<i>Discuss galaxies and the different classifications that exist</i>
Planets	<i>Discuss the eight planets while highlighting their distinguishing characteristics</i>
Electromagnetic Spectrum	<i>Discuss the electromagnetic spectrum and the different wavelengths of radiation that help compose it</i>
Seasons	<i>Discuss the different seasons on Earth and how they result from the tilt of Earth's axis</i>
Moon Phases	<i>Discuss, in order, the various phases the moon goes through in one complete cycle</i>
Eclipses	<i>Discuss the different types of eclipses and what causes them</i>
Life Cycle of a Star	<i>Discuss the various stages that compose the life cycle of a star</i>

Biology	
<i>Topic</i>	<i>Description</i>
Cells	<i>Discuss cells and the different structures within them that perform a variety of functions</i>
Body Systems	<i>Discuss the various body systems and their respective functions (e.g. - circulatory system, nervous system, endocrine system, etc.)</i>
Mitosis/Meiosis	<i>Discuss mitosis/meiosis and the different phases within the processes</i>
Chromosomes	<i>Discuss chromosomes and how they are used for karyotypes</i>
Heredity	<i>Discuss heredity and the specifics (dominant, recessive, etc.) associated with how traits are passed on from one generation to the next</i>
Punnett Squares	<i>Discuss how Punnett Squares work and provide an example</i>
DNA	<i>Discuss DNA and its structure</i>
Food Chains/Webs	<i>Discuss food chains/webs, the different classifications of organisms (producers, consumers, etc.) that compose the chains/webs, and how energy makes its way through</i>
Diffusion/Osmosis	<i>Discuss diffusion/osmosis and the different types of osmotic environments (hypertonic, hypotonic, isotonic) that influence the movement of solvents</i>

Chemistry	
<i>Topic</i>	<i>Description</i>
Phases/States of Matter	<i>Discuss the five phases/states of matter and the defining characteristics associated with each</i>
Laws/Principles of Matter	<i>Discuss any law or principle of matter (e.g. - Charles' Law, Boyle's Law, Bernoulli's Principle, etc.) and its defining characteristics</i>
Atoms	<i>Discuss atoms and the different parts that help compose them</i>
Forces within Atoms	<i>Discuss the different types of forces (gravitational, electromagnetic, strong, weak) that help hold atoms together</i>
Periodic Table	<i>Discuss the periodic table, its different sections (or classes of elements), the patterns associated within it, and how to use it</i>
Chemical Bonds	<i>Discuss chemical bonds, the three types (ionic, covalent, metallic), and the defining characteristics associated with each</i>
Chemical Reactions	<i>Discuss chemical reactions and how The Law of Conservation of Mass impacts them</i>
Mixtures	<i>Discuss the different types of mixtures (heterogeneous and homogeneous) and the connection to solutes and solvents</i>
Acids and Bases	<i>Discuss acids and bases and the defining characteristics associated with each</i>
Radioactivity	<i>Discuss radioactivity, the three types of radioactive decay (alpha, beta, gamma), and the concept of half-life</i>

Earth Science	
<i>Topic</i>	<i>Description</i>
Water Cycle	<i>Discuss the water cycle and the different parts (evaporation, condensation, precipitation, collection/accumulation) that compose it</i>
Plate Tectonics	<i>Discuss plate tectonics</i>
Earth's Atmosphere	<i>Discuss the Earth's atmosphere, the different layers that compose it, and the defining characteristics associated with each of them</i>
The Greenhouse Effect	<i>Discuss the Greenhouse Effect, the gases that contribute to it, and the connection to global warming</i>
Global Warming	<i>Discuss global warming, what is thought to be causing it, and possible consequences</i>
Weathering and Erosion	<i>Discuss the processes of weathering and erosion</i>
The Rock Cycle	<i>Discuss the rock cycle, the three different types of rocks that compose it (igneous, metamorphic, sedimentary), and the defining characteristics associated with each</i>
Earth's Structure	<i>Discuss the Earth's structure, the main parts (crust, mantle, inner and outer core) of the Earth, and the defining characteristics associated with each</i>
Natural Disasters	<i>Discuss any natural disaster (hurricanes, earthquakes, tornadoes, tsunamis) in detail</i>

Physics

<i>Topic</i>	<i>Description</i>
Motion	<i>Discuss motion and specific concepts associated with it such as speed and acceleration</i>
Newton's Laws	<i>Discuss Newton's three laws in detail</i>
Simple Machines	<i>Discuss simple machines, specific examples (lever, pulley, wedge/inclined plane/screw), and the defining characteristics of each</i>
Gravity	<i>Discuss gravity, what causes it, and how it impacts us and/or objects</i>
Work and Energy	<i>Discuss work and the formula for how to calculate it</i>
Density and Buoyancy	<i>Discuss density, its effects on objects, and the formula for how to calculate it</i>