

## AISB Science - Vertical Subject Overview

Review AISB's **Learning Standards for Science**

Review AISB's **Science Benchmarks**

Grade	Course	Primary Curriculum Units	
		Semester 1	Semester 2
11-12	<b>Advanced Physics</b>	<ol style="list-style-type: none"> <li>1. Math Review</li> <li>2. Kinematics</li> <li>3. Newton's Laws</li> <li>4. Work, Power, Energy, Momentum</li> <li>5. Fluid Mechanics</li> <li>6. Thermal Physics</li> </ol>	<ol style="list-style-type: none"> <li>7. Electrostatics and Current Electricity</li> <li>8. Electromagnetism</li> <li>9. Waves &amp; Optics</li> <li>10. Modern Physics</li> <li>11. Special Relativity</li> </ol>
	<b>Biology</b>	<ol style="list-style-type: none"> <li>1. Biological Principles</li> <li>2. Cells</li> <li>3. Genetics Micro-organisms</li> <li>4. Plants</li> </ol>	<ol style="list-style-type: none"> <li>5. Invertebrates</li> <li>6. Vertebrates</li> <li>7. Ecology</li> <li>8. Evolution</li> </ol>
	<b>AP Environmental Science</b>	<ol style="list-style-type: none"> <li>1. Earth Systems &amp; Resources</li> <li>2. The Living World</li> <li>3. Population</li> <li>4. Land &amp; Water Use</li> </ol>	<ol style="list-style-type: none"> <li>5. Energy Resources &amp; Consumption</li> <li>6. Pollution</li> <li>7. Global Change</li> </ol>
10	<b>Chemistry</b>	<ol style="list-style-type: none"> <li>1. Dimensional Analysis</li> <li>2. The Periodic Table</li> <li>3. Bonding</li> <li>4. Stoichiometry</li> <li>5. Gases,</li> </ol>	<ol style="list-style-type: none"> <li>6. Thermochemistry</li> <li>7. Solutions</li> <li>8. Chemical Equilibria</li> <li>9. Acids &amp; Bases</li> <li>10. Nuclear Chemistry</li> </ol>
9	<b>Conceptual Physics</b>	<ol style="list-style-type: none"> <li>1. Fluids</li> <li>2. Heat</li> <li>3. Introduction to Matter</li> <li>4. Sound and Light</li> </ol>	<ol style="list-style-type: none"> <li>5. Electromagnetic and Waves</li> <li>6. Gravity</li> <li>7. Momentum and Rotation</li> <li>8. Motion</li> <li>9. Newton's Laws</li> </ol>
8	<b>Earth Science</b>	<ol style="list-style-type: none"> <li>1. Atmosphere</li> <li>2. Basic earth Structure</li> <li>3. Plate Tectonics</li> <li>4. Volcanoes</li> <li>5. Earthquakes</li> </ol>	<ol style="list-style-type: none"> <li>6. Earth history</li> <li>7. Rocks and Minerals</li> <li>8. Solar System</li> <li>9. Global Warming</li> </ol>
7	<b>Life Science</b>	<ol style="list-style-type: none"> <li>1. Fresh water Ponds</li> <li>2. Laboratory Safety and Activities</li> <li>3. Microorganisms</li> <li>4. Bacteria</li> <li>5. Macroscopic Animals - Pond</li> <li>6. Classification of Animals</li> <li>7. Cell Structure and Function</li> </ol>	<ol style="list-style-type: none"> <li>8. Genetics</li> <li>9. Viruses</li> <li>10. Plants</li> <li>11. Invertebrates and vertebrates</li> <li>12. Ecology</li> <li>13. Fungi</li> </ol>
6		<ol style="list-style-type: none"> <li>1. Introduction to 6th Grade Science</li> <li>2. Introduction to Matter</li> <li>3. Chemistry</li> <li>4. Heat</li> </ol>	<ol style="list-style-type: none"> <li>5. Waves, Sound and Light</li> <li>6. Motion and Forces</li> <li>7. Work/Energy</li> </ol>

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5	Earth Building & Breaking Volcanoes, earthquakes, tectonic plates, erosion, rock types, rock cycle	Sound/Light Energy, what is light and sound, sight & hearing & nervous system as it relates to light & sound, speed of light and sound and how they are measured, lenses, mirrors, prisms, history of tools related to sound & light	Teeny Tiny Stuff <b>Small Things: Cells and Atoms</b> Basic cell structure and function, traits of living things, use and care of microscopes, basic atom structure, phases of matter, physical and chemical change	Plants: and Reproduction: Seeds, plants, flowers – parts and functions, pollinators and pollination, germination, requirements for growth, photosynthesis, vascular plants – flowering and non-flowering, ecosystem energy pyramid	Science Tools & Processes Scientific method, lab write-up, graphing, data organization, tool use (as many as possible)  Health: Our Changing Body Physical and emotional changes during adolescence, cultural pressures related to being attractive
4	Human Body Skeletal System, Circulatory System, Digestive System, Nervous System, Muscular System	Space Studies Identify each planet and describe them, Main components of the solar system, Describe the interactions/differen ces within the solar system, Identify professions that deal with the solar system and why they are important	Ecology: Oceans Identify the oceans, Ocean conservation, Ecosystems, Ocean/weather connection		Electricity & Magnets What is electricity? Currents and voltage, Electrical Charge Carriers, What is a circuit? Difference between conductor and insulator
3	Invertebrates Identify invertebrates; focus on insects –helpful/harmful, lifecycles, and cetera.	Simple Machines Identify and build simple machines, compound machines, work, force, gravity and friction.	Rocks/Soil/Fossils Difference between rocks and minerals, how rocks are formed, different kinds of soil, how soil is forms and what is a fossil		Ecology: Rainforests Importance of the rainforest, what comes from the rainforest, where are rainforests, and why is a rainforest unique
2	Vertebrates	Matter	Cycles		Energy

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	Mammals, amphibians, reptiles, birds, characteristics of groups, life cycles, needs and survival	Identification & sorting, changes, measurement: integrated with math measurement unit.	Sun & moon positions, day & night, seasons, shadows.		Sound, heat and light
<b>1</b>	Human Body: Major organs and their functions; Dental health; Nutrition and the food guide pyramid; Importance of senses; Proper hygiene	Plants Parts and their uses; Needs; Life Cycle: Uses of plants to humans	Magnets Properties; Poles; Strength; Movement		Weather Measurement tools; Clouds; Water cycle; Characteristics of different types of weather
<b>K</b>	Land Formations And Terrain	Attributes of living & non-living things.	Human Body/Healthy Living	Animal Habitats	Space and Our Solar System