



Alignment Document  
State of Kansas and Aventa Learning Environmental Science

**Environmental Science**  
2005-2007 Benchmark Blueprint

Standards	Topics	Benchmarks	Unit Name	Course Topic Description
<b>1</b> The student will develop the abilities necessary to do scientific inquiry and develop an understanding of scientific inquiry.	<b>1.1</b> The student will demonstrate the abilities necessary to do scientific inquiry.	<b>1.1.1</b> actively engages in asking and evaluating research questions.		
		<b>1.1.2</b> actively engages in investigations, including developing questions, gathering and analyzing data, and designing and conducting research		
		<b>1.1.3</b> actively engages in using technological tools and mathematics in their own scientific investigations.		
		<b>1.1.4</b> actively engages in conducting an inquiry, formulating and revising his or her scientific explanations and models (physical, conceptual, or mathematical) using logic and evidence, and recognizing that potential alternative explanations and models should be considered.		
		<b>1.1.5</b> actively engages in communicating and defending the design, results, and conclusion of his/her investigation.		
<b>5</b> The student will develop understandings about the relationship between science and technology.	<b>5.1</b> The student will develop an understanding that technology is applied science.	<b>5.1.1</b> understands technology is the application of scientific knowledge for functional purposes.		
		<b>5.1.2</b> understands creativity, imagination, and a broad scientific knowledge base are required to produce useful results.		

		<b>5.1.3</b> understands science advances new technologies. New technologies open new areas for scientific inquiry.			
<b>6</b> The student will develop an understanding of personal and community health, population growth, natural resources, environmental quality, natural and human-induced hazards, and science and technology in local, national, and global settings.	<b>6.1</b> The student will develop an understanding of the overall functioning of human systems and their interaction with the environment in order to understand specific mechanisms and processes related to health issues.	<b>6.1.1</b> understands some chemical and physical hazards and accidents can be avoided through safety education			
		<b>6.1.2</b> understands the severity of disease symptoms is dependent on many factors.			
		<b>6.1.3</b> understands informed personal choices concerning fitness and health involve an understanding of chemistry and biology.			
		<b>6.1.4</b> understands selection of foods and eating patterns determine nutritional balance which affects emotional and physical well-being.			
	<b>6.2</b> The student will demonstrate an understanding of population growth.		<b>6.2.1</b> understands the rate of change in populations is determined by the combined effects of birth, death, emigration, and immigration.	Populations	Understanding Populations
			<b>6.2.2</b> understands a variety of factors influence birth rates and fertility rates.	Populations	Understanding Populations
			<b>6.2.3</b> understands populations have limits to growth.	Populations	Understanding Populations
	<b>6.3</b> The student will understand that human populations use natural resources and influence environmental quality.		<b>6.3.1</b> understands natural resources from the lithosphere and ecosystems are required to sustain human populations.	Populations	The Human Population
			<b>6.3.2</b> understands earth does not have infinite resources.	Introduction to Environmental Science	Science and the Environment
	<b>6.4</b> The student will understand the effect of natural and human-influenced hazards.		<b>6.4.1</b> understands natural processes of earth may be hazardous for humans.	Introduction to Environmental Science	The Dynamic Earth
<b>6.4.2</b> understands there is a need to assess potential risk and danger from natural and human-induced hazards.			Introduction to Environmental Science	The Dynamic Earth	

	<p><b>6.5</b> The student will develop an understanding of the relationship between science, technology, and society.</p>	<p><b>6.5.1</b> understands progress in science and technology can be affected by social issues and challenges. Science and technology indicate what can happen, not what should happen.</p>		
<p><b>7</b> The student will develop understanding of science as a human endeavor, the nature of scientific knowledge, and historical perspectives.</p>	<p><b>7.1</b> The student will develop an understanding that science is a human endeavor that uses models to describe and explain the physical universe.</p>	<p><b>7.1.1</b> demonstrates an understanding of science as both vocation and avocation.</p>		
		<p><b>7.1.2</b> explains how science uses peer review, replication of methods, and norms of honesty.</p>		
		<p><b>7.1.3</b> recognizes the universality of basic science concepts and the influence of personal and cultural beliefs that embed science in society.</p>		
		<p><b>7.1.4</b> recognizes that society helps create the ways of thinking (mindsets) required for scientific advances, both toward training scientists and educating a populace to utilize benefits of science (e.g., standards of hygiene, attitudes toward forces of nature, etc.).</p>		
		<p><b>7.1.5</b> understands there are many issues which involve morals, ethics, values or spiritual beliefs that go beyond what science can explain, but for which solid scientific literacy is useful.</p>		
<p><b>7.2</b> The student will develop an understanding of the nature of scientific knowledge.</p>	<p><b>7.2.1</b> understands scientific knowledge describes and explains the physical world in terms of matter, energy, and forces. Scientific knowledge is provisional and is subject to change as new evidence becomes available.</p>			

		<b>7.2.2</b> understands scientific knowledge begins with empirical observations, which are the data (also called facts or evidence) upon which further scientific knowledge is built.	Introduction to Environmental Science	Tools of Environmental Science
		<b>7.2.3</b> understands scientific knowledge consists of hypotheses, inferences, laws, and theories.		
		<b>7.2.4</b> understands a testable hypothesis or inference must be subject to confirmation by empirical evidence	Introduction to Environmental Science	Tools of Environmental Science
	<b>7.3</b> The student will understand science from historical perspectives.	<b>7.3.1</b> demonstrates an understanding of the history of science.		
		<b>7.3.2</b> demonstrates a knowledge that scientific method historically proceeded from an inductive approach rather than a deductive approach.		