

Middle School Grades (6-8)

SSS - Essential Work Skills Crosswalk - Science

Science Standard	SC.A	Science SSS/Benchmark	1.3.1	FCAT Concept	H
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Description *Identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).*

Essential Skill **Essential Skill Description**

s23 Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

Science Standard	SC.A	Science SSS/Benchmark	1.3.2	FCAT Concept	H
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Description *Understands the difference between weight and mass.*

Essential Skill **Essential Skill Description**

s23 Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

Science Standard	SC.A	Science SSS/Benchmark	1.3.3	FCAT Concept	M
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Description *Knows that temperature measures the average energy of motion of the particles that make up the substance.*

Essential Skill **Essential Skill Description**

s94 Understand the concept of internal energy (the total potential and kinetic energies associated with the motion and relative position of the molecules of an object) and heat (the energy transfer from a warm body to a cold body).

Science Standard	SC.A	Science SSS/Benchmark	1.3.4	FCAT Concept	M
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Description *Knows that atoms in solids are close together and do not move around easily; in liquids, atoms tend to move farther apart; in gas, atoms are quite far apart and move around freely.*

Essential Skill **Essential Skill Description**

s57 Understand physical/chemical change (e.g., change of phase between gases, liquids, and solids).

Science Standard	SC.A	Science SSS/Benchmark	1.3.5	FCAT Concept	M
Description	<i>Knows the difference between a physical change in a substance (i.e., altering the shape, form, volume, or density) and a chemical change (i.e., producing new substances with different characteristics).</i>				
Essential Skill	Essential Skill Description				
s57	Understand physical/chemical change (e.g., change of phase between gases, liquids, and solids).				

Science Standard	SC.A	Science SSS/Benchmark	1.3.6	FCAT Concept	H
Description	<i>Knows that equal volumes of different substances may have different masses.</i>				
Essential Skill	Essential Skill Description				
s23	Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.				

Science Standard	SC.A	Science SSS/Benchmark	2.3.1	FCAT Concept	M
Description	<i>Describes and compares the properties of particles and waves.</i>				
Essential Skill	Essential Skill Description				
s93	Know the concepts and theories of waves (i.e., a vibratory disturbance that propagates through a material or space, and how energy transfer, pulses and periodic waves, and wave motion in incorporated).				

Science Standard	SC.A	Science SSS/Benchmark	2.3.2	FCAT Concept	M
Description	<i>Knows the general properties of the atom (a massive nucleus of neutral neutrons and positive protons surrounded by a cloud of negative electrons) and accepts that single atoms are not visible.</i>				
Essential Skill	Essential Skill Description				
s107	Know the three most prominent models of the atom: The Rutherford, Bohr, and Cloud models. Examine how each theorizes the way in which electrons orbit about the nucleus.				

Science Standard	SC.A	Science SSS/Benchmark	2.3.3	FCAT Concept	H
Description	<i>Knows that radiation, light, and heat are forms of energy used to cook food, treat diseases, and provide energy.</i>				
Essential Skill	Essential Skill Description				
s55	Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).				

Science Standard	<i>SC.B</i>	Science SSS/Benchmark	<i>1.3.1</i>	FCAT Concept	H
Description	<i>Identifies forms of energy and explains that they can be measured and compared.</i>				
Essential Skill	Essential Skill Description				
s55	Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).				

Science Standard	<i>SC.B</i>	Science SSS/Benchmark	<i>1.3.2</i>	FCAT Concept	H
Description	<i>Knows that energy cannot be created or destroyed, but only changed from one form to another.</i>				
Essential Skill	Essential Skill Description				
s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.				

Science Standard	<i>SC.B</i>	Science SSS/Benchmark	<i>1.3.3</i>	FCAT Concept	H
Description	<i>Knows the various forms in which energy comes to Earth from the sun (e.g., visible light, infrared, and microwave).</i>				
Essential Skill	Essential Skill Description				
s55	Identify types of energy (e.g., heat, light, and electricity) and know how to apply measurements of energy (e.g., the calorie, and thermometry).				

Science Standard	<i>SC.B</i>	Science SSS/Benchmark	<i>1.3.4</i>	FCAT Concept	M
Description	<i>Knows that energy conversions are never 100% efficient (i.e., some energy is transformed to heat and is unavailable for further useful work).</i>				
Essential Skill	Essential Skill Description				
s60	Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.				

Science Standard	<i>SC.B</i>	Science SSS/Benchmark	<i>1.3.5</i>	FCAT Concept	M
Description	<i>Knows the processes by which thermal energy tends to flow from a system of higher temperature to a system of lower temperature.</i>				
Essential Skill	Essential Skill Description				
	No Essential Work Skill				

Science Standard	SC.B	Science SSS/Benchmark	1.3.6	FCAT Concept	H
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Description *Knows the properties of waves (e.g., frequency, wavelength, and amplitude); that each wave consists of a number of crests and troughs; and the effects of different media on waves.*

Essential Skill **Essential Skill Description**

s109 Know the characteristic of periodic waves (i.e., frequency, period, amplitude, phase, wavelength, speed, the Doppler Effect, and wave fronts).

Science Standard	SC.B	Science SSS/Benchmark	2.3.1	FCAT Concept	H
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Description *Knows that most events in the universe (e.g., weather changes, moving cars, and the transfer of a nervous impulse in the human body) involve some form of energy transfer and that these changes almost always increase the total disorder of the system and its surroundings, reducing the amount of useful energy.*

Essential Skill **Essential Skill Description**

s60 Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.

Science Standard	SC.B	Science SSS/Benchmark	2.3.2	FCAT Concept	M
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Description *Knows that most of the energy used today is derived from burning stored energy collected by organisms millions of years ago (i.e., nonrenewable fossil fuels).*

Essential Skill **Essential Skill Description**

s06 Understand how humans, through technology, cause environmental change by disrupting the equilibrium or balance of nature by introducing pollutants into the environment.

Science Standard	SC.C	Science SSS/Benchmark	1.3.1	FCAT Concept	M
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Description *Knows that the motion of an object can be described by its position, direction of motion, and speed.*

Essential Skill **Essential Skill Description**

s77 Understand and apply kinematics (i.e., the mathematical methods of describing motion without regard to the forces that produce it, such as velocity, acceleration and deceleration, and displacement).

Science Standard	SC.C	Science SSS/Benchmark	1.3.2	FCAT Concept	H
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Description Knows that vibrations in materials set up wave disturbances that spread away from the source (e.g., sound and earthquake waves).

Essential Skill **Essential Skill Description**

s93 Know the concepts and theories of waves (i.e., a vibratory disturbance that propagates through a material or space, and how energy transfer, pulses and periodic waves, and wave motion in incorporated).

Science Standard	SC.C	Science SSS/Benchmark	2.3.1	FCAT Concept	M
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Description Knows that many forces (e.g., gravitational, electrical, and magnetic) act at a distance (i.e., without contact).

Essential Skill **Essential Skill Description**

s84 Understand and apply statics (i.e., the relation between forces acting on an object at rest) and dynamics (i.e., the relation between the forces acting on an object and the resulting motion).

Science Standard	SC.C	Science SSS/Benchmark	2.3.2	FCAT Concept	H
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Description Knows common contact forces.

Essential Skill **Essential Skill Description**

s84 Understand and apply statics (i.e., the relation between forces acting on an object at rest) and dynamics (i.e., the relation between the forces acting on an object and the resulting motion).

Science Standard	SC.C	Science SSS/Benchmark	2.3.3	FCAT Concept	H
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Description Knows that if more than one force acts on an object, then the forces can reinforce or cancel each other, depending on their direction and magnitude.

Essential Skill **Essential Skill Description**

s84 Understand and apply statics (i.e., the relation between forces acting on an object at rest) and dynamics (i.e., the relation between the forces acting on an object and the resulting motion).

Science Standard	SC.C	Science SSS/Benchmark	2.3.4	FCAT Concept	M
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Description Knows that simple machines can be used to change the direction or size of a force.

Essential Skill **Essential Skill Description**

s49 Understand the concepts and uses of machines (e.g., levers and pulleys).

Science Standard	SC.C	Science SSS/Benchmark	2.3.5	FCAT Concept	H
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Description *Understands that an object in motion will continue at a constant speed and in a straight line until acted upon by a force and that an object at rest will remain at rest until acted upon by a force.*

Essential Skill **Essential Skill Description**

s77 Understand and apply kinematics (i.e., the mathematical methods of describing motion without regard to the forces that produce it, such as velocity, acceleration and deceleration, and displacement).

Science Standard	SC.C	Science SSS/Benchmark	2.3.6	FCAT Concept	H
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Description *Explains and shows the ways in which a net force (i.e., the sum of all acting forces) can act on an object (e.g., speeding up an object travelling in the same direction as the net force, slowing down an object traveling in the direction opposite of the net force).*

Essential Skill **Essential Skill Description**

s77 Understand and apply kinematics (i.e., the mathematical methods of describing motion without regard to the forces that produce it, such as velocity, acceleration and deceleration, and displacement).

Science Standard	SC.C	Science SSS/Benchmark	2.3.7	FCAT Concept	M
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Description *Knows that gravity is a universal force that every mass exerts on every other mass.*

Essential Skill **Essential Skill Description**

s84 Understand and apply statics (i.e., the relation between forces acting on an object at rest) and dynamics (i.e., the relation between the forces acting on an object and the resulting motion).

Science Standard	SC.D	Science SSS/Benchmark	1.3.1	FCAT Concept	M
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Description *Knows that mechanical and chemical activities shape and reshape the Earth's land surface by eroding rock and soil in some areas and depositing them in other areas, sometimes in seasonal layers.*

Essential Skill **Essential Skill Description**

s98 Know the characteristics of the erosional - depositional system by differentiating between an erosional process and a depositional process, locating the interface between erosion and deposition, and obtaining dynamic equilibrium between the two processes.

Science Standard SC.D **Science SSS/Benchmark** 1.3.2 **FCAT Concept** H

Description *Knows that over the whole Earth, organisms are growing, dying, and decaying as new organisms are produced by the old ones.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard SC.D **Science SSS/Benchmark** 1.3.3 **FCAT Concept** M

Description *Knows how conditions that exist in one system influence the conditions that exist in other systems.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard SC.D **Science SSS/Benchmark** 1.3.4 **FCAT Concept** H

Description *Knows the ways in which plants and animals reshape the landscape (e.g., bacteria, fungi, worms, rodents, and other organisms add organic matter to the soil, increasing soil fertility, encouraging plant growth, and strengthening resistance to erosion).*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard SC.D **Science SSS/Benchmark** 1.3.5 **FCAT Concept** M

Description *Understands concepts of time and size relating to the interaction of Earth's processes (e.g., lightning striking in a split second as opposed to the shifting of the Earth's plates altering the landscape, distance between atoms measured in Angstrom units as opposed to distance between stars measured in light-years).*

Essential Skill **Essential Skill Description**

s23 Measure properties of the environment using dimensional quantities such as time, length, mass, pressure, volume, acceleration, etc. Compare, estimate and predict measurements.

Science Standard SC.D **Science SSS/Benchmark** 2.3.1 **FCAT Concept** L

Description *Understands that quality of life is relevant to personal experience.*

Essential Skill **Essential Skill Description**
No Essential Work Skill

Science Standard SC.D **Science SSS/Benchmark** 2.3.2 **FCAT Concept** H

Description *Knows the positive and negative consequences of human action on the Earth's systems.*

Essential Skill **Essential Skill Description**
s10 Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Science Standard SC.E **Science SSS/Benchmark** 1.3.1 **FCAT Concept** H

Description *Understands the basic size of our Solar System and the relationship of the planets and their satellites.*

Essential Skill **Essential Skill Description**
s50 Identify and comprehend celestial observations (i.e., motions of objects in the sky) such as star paths, planetary motions, satellite motions, and sun motions.

Science Standard SC.E **Science SSS/Benchmark** 1.3.2 **FCAT Concept** H

Description *Knows that available data from various satellite probes show the similarities and differences among planets and their moons in the Solar System.*

Essential Skill **Essential Skill Description**
s50 Identify and comprehend celestial observations (i.e., motions of objects in the sky) such as star paths, planetary motions, satellite motions, and sun motions.

Science Standard SC.E **Science SSS/Benchmark** 1.3.3 **FCAT Concept** M

Description *Understands that our sun is one of many stars in our galaxy.*

Essential Skill **Essential Skill Description**
s50 Identify and comprehend celestial observations (i.e., motions of objects in the sky) such as star paths, planetary motions, satellite motions, and sun motions.

Science Standard	<i>SC.E</i>	Science SSS/Benchmark	<i>1.3.4</i>	FCAT Concept	M
Description	<i>Knows that stars appear to be made of similar chemical elements, although they differ in age, size, temperature, and distance.</i>				
Essential Skill	Essential Skill Description				
s50	Identify and comprehend celestial observations (i.e., motions of objects in the sky) such as star paths, planetary motions, satellite motions, and sun motions.				

Science Standard	<i>SC.E</i>	Science SSS/Benchmark	<i>2.3.1</i>	FCAT Concept	M
Description	<i>Knows that thousands of other galaxies appear to have the same elements, forces, and forms of energy found in our Solar System.</i>				
Essential Skill	Essential Skill Description				
s50	Identify and comprehend celestial observations (i.e., motions of objects in the sky) such as star paths, planetary motions, satellite motions, and sun motions.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.1</i>	FCAT Concept	H
Description	<i>Understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.</i>				
Essential Skill	Essential Skill Description				
s15	Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.2</i>	FCAT Concept	M
Description	<i>Knows that the structural basis of most organisms is the cell and most organisms are single cells, while some, including humans, are multicellular.</i>				
Essential Skill	Essential Skill Description				
s09	Identify the cell as a common unit between living things; understand cell structure and the functions they perform.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.3</i>	FCAT Concept	M
Description	<i>Knows that in multicellular organisms cells grow and divide to make more cells in order to form and repair various organs and tissues.</i>				
Essential Skill	Essential Skill Description				
s09	Identify the cell as a common unit between living things; understand cell structure and the functions they perform.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.4</i>	FCAT Concept	M
Description	<i>Knows that the levels of structural organization for function in living things include cells, tissues, organs, systems, and organisms.</i>				
Essential Skill	Essential Skill Description				
s15	Identify and describe the levels of organization in living systems (i.e., tissues, organs, organ systems, and organisms).				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.5</i>	FCAT Concept	M
Description	<i>Explains how the life functions of organisms are related to what occurs within the cell.</i>				
Essential Skill	Essential Skill Description				
s09	Identify the cell as a common unit between living things; understand cell structure and the functions they perform.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.6</i>	FCAT Concept	M
Description	<i>Knows that the cells with similar functions have similar structures, whereas those with different structures have different functions.</i>				
Essential Skill	Essential Skill Description				
s09	Identify the cell as a common unit between living things; understand cell structure and the functions they perform.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>1.3.7</i>	FCAT Concept	M
Description	<i>Knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.</i>				
Essential Skill	Essential Skill Description				
	No Essential Work Skill				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>2.3.1</i>	FCAT Concept	M
Description	<i>Knows the patterns and advantages of sexual and asexual reproduction in plants and animals.</i>				
Essential Skill	Essential Skill Description				
s14	Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of genetic diversity. Most plants and animals use sexual reproduction.				
s63	Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.				

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>2.3.2</i>	FCAT Concept	H
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Description *Knows that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.*

Essential Skill **Essential Skill Description**

s12 Examine the foundations of genetics involving heredity and inherited traits passed on through generations, understand the gene-chromosome concept, and apply classical genetic studies (Mendelian genetics).

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>2.3.3</i>	FCAT Concept	M
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Description *Knows that generally organisms in a population live long enough to reproduce because they have survival characteristics.*

Essential Skill **Essential Skill Description**

s44 Examine evolution as it relates to theories concerning the origin of life and natural selection.

Science Standard	<i>SC.F</i>	Science SSS/Benchmark	<i>2.3.4</i>	FCAT Concept	M
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Description *Knows that the fossil record provides evidence that changes in the kinds of plants and animals in the environment have been occurring over time.*

Essential Skill **Essential Skill Description**

s67 Examine the fossil record to understand ancient life forms and evolutionary development.

Science Standard	<i>SC.G</i>	Science SSS/Benchmark	<i>1.3.1</i>	FCAT Concept	H
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Description *Knows that viruses depend on other living things.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard	<i>SC.G</i>	Science SSS/Benchmark	<i>1.3.2</i>	FCAT Concept	M
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Description *Knows that biological adaptations include changes in structures, behaviors, or physiology that enhance reproductive success in a particular environment.*

Essential Skill **Essential Skill Description**

s09 Identify the cell as a common unit between living things; understand cell structure and the functions they perform.

Science Standard	SC.G	Science SSS/Benchmark	1.3.3	FCAT Concept	M
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Description *Understands that the classification of living things is based on a given set of criteria and is a tool for understanding biodiversity and interrelationships.*

Essential Skill **Essential Skill Description**

s59 Know the classification system into which organisms are separated and grouped based on common characteristics. The classification groups include (from largest to smallest): kingdom, phylum, class, genus, and species.

Science Standard	SC.G	Science SSS/Benchmark	1.3.4	FCAT Concept	H
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Description *Knows that the interactions of organisms with each other and with the nonliving parts of their environments result in the flow of energy and the cycling of matter throughout the system.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard	SC.G	Science SSS/Benchmark	1.3.5	FCAT Concept	H
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Description *Knows that life is maintained by a continuous input of energy from the sun and by the recycling of the atoms that make up the molecules of living organisms.*

Essential Skill **Essential Skill Description**

s42 Understand the chemical reactions involved in cell functions (e.g., food molecules taken into cells are broken down to provide the chemical constituents needed to synthesize other molecules).

Science Standard	SC.G	Science SSS/Benchmark	2.3.1	FCAT Concept	M
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Description *Knows that some resources are renewable and others are nonrenewable.*

Essential Skill **Essential Skill Description**

s60 Observe and interpret energy and change relationships with the understanding that change occurs simultaneously at the interface between two parts of the environment where there is an energy exchange.

Science Standard	SC.G	Science SSS/Benchmark	2.3.2	FCAT Concept	M
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Description *Knows that all biotic and abiotic factors are interrelated and that if one factor is changed or removed, it impacts the availability of other resources within the system.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard	SC.G	Science SSS/Benchmark	2.3.3	FCAT Concept	M
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Description *Knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.*

Essential Skill **Essential Skill Description**

s13 Understand ecology as the study of the interactions and relationships of organisms with their living and nonliving environments (i.e., the ecosystem, communities, and populations).

Science Standard	SC.G	Science SSS/Benchmark	2.3.4	FCAT Concept	H
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Description *Understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.*

Essential Skill **Essential Skill Description**

s10 Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation.

Science Standard	SC.H	Science SSS/Benchmark	1.3.1	FCAT Concept	H
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Description *Knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.*

Essential Skill **Essential Skill Description**

s116 (Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.2* **FCAT Concept** *M*

Description *Knows that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.*

Essential Skill **Essential Skill Description**

s116 (Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.3* **FCAT Concept** *M*

Description *Knows that science disciplines differ from one another in topic, techniques, and outcomes, but that they share a common purpose, philosophy, and enterprise.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.4* **FCAT Concept** *H*

Description *Knows that accurate record keeping, openness, and replication are essential to maintaining an investigator's credibility with other scientists and society.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.5* **FCAT Concept** *H*

Description *Knows that a change in one or more variables may alter the outcome of an investigation.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.6* **FCAT Concept** *L*

Description *Recognizes the scientific contributions that are made by individuals of diverse backgrounds, interests, talents, and motivations.*

Essential Skill **Essential Skill Description**

s116 (Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Science Standard *SC.H* **Science SSS/Benchmark** *1.3.7* **FCAT Concept** *H*

Description *Knows that when similar investigations give different results, the scientific challenge is to verify whether the differences are significant by further study.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard *SC.H* **Science SSS/Benchmark** *2.3.1* **FCAT Concept** *M*

Description *Recognizes that patterns exist within and across systems.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard *SC.H* **Science SSS/Benchmark** *3.3.1* **FCAT Concept** *M*

Description *Knows that science ethics demand that scientists must not knowingly subject coworkers, students, the neighborhood, or the community to health or property risks.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.2</i>	FCAT Concept	M
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Description *Knows that special care must be taken in using animals in scientific research.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.3</i>	FCAT Concept	M
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Description *Knows that in research involving human subjects, the ethics of science require that potential subjects be fully informed about the risks and benefits associated with the research and of their right to refuse to participate.*

Essential Skill **Essential Skill Description**

s114 (Not Ranked) Know and apply the principles of scientific inquiry. (Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.4</i>	FCAT Concept	M
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Description *Knows that technological design should require taking into account constraints such as natural laws, the properties of the materials used, and economic, political, social, ethical, and aesthetic values.*

Essential Skill **Essential Skill Description**

s115 (Not Ranked) Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems.

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.5</i>	FCAT Concept	L
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Description *Understands that contributions to the advancement of science, mathematics, and technology have been made by different kinds of people, in different cultures, at different times, and are an intrinsic part of the development of human culture.*

Essential Skill **Essential Skill Description**

s116 (Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.6</i>	FCAT Concept	<table border="1"><tr><td><i>M</i></td></tr></table>	<i>M</i>
<i>M</i>						

Description *Knows that no matter who does science and mathematics or invents things, or when or where they do it, the knowledge and technology that result can eventually become available to everyone.*

Essential Skill **Essential Skill Description**

s116 (Not Ranked) Understand the impact upon society and the environment of scientific and technological discoveries and the contributions of scientists. Understand how society may accept or reject scientific discoveries based upon need or refusal to change.

Science Standard	<i>SC.H</i>	Science SSS/Benchmark	<i>3.3.7</i>	FCAT Concept	<table border="1"><tr><td><i>M</i></td></tr></table>	<i>M</i>
<i>M</i>						

Description *Knows that computers speed up and extend people's ability to collect, sort, and analyze data; prepare research reports; and share data and ideas with others.*

Essential Skill **Essential Skill Description**

No Essential Work Skill