

## South Cross Bayou

### Middle School Science Standards by Station

Station	6-8 Standards
<i>Introduction</i>	<p>HE.6.C.1.3 Identify environmental factors that affect personal health.</p> <p>HE.6.C.1.5 Explain how body systems are impacted by hereditary factors and infectious agents.</p> <p>HE.7.C.1.3 Analyze how environmental factors affect personal health.</p> <p>HE.7.C.1.8 Classify infectious agents and their modes of transmission to the human body.</p> <p>SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.</p> <p>SC.8.N.4.1 Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.</p> <p>SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa.</p>
1 <i>Operations Center</i>	<p>SC.7.N.3.2 Identify the benefits and limitations of the use of scientific models</p> <p>SC.8.E.5.10 Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.</p>
2 <i>Influent Pump Station</i>	<p>SC.6.P.13.1 Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.</p>
3 <i>Headworks</i>	<p>SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.</p>
4A <i>Teacups</i>	<p>SC.6.P.13.1 Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.</p> <p>SC.6.P.13.3 Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.</p> <p>SC.8.P.8.9 Distinguish among mixtures (including solutions) and pure substances.</p> <p>SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p>
4B <i>Grit Snail &amp; Dumpsters</i>	<p>SC.8.P.8.9 Distinguish among mixtures (including solutions) and pure substances.</p> <p>SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p>
5 <i>Primary Clarifier Tanks</i>	<p>SC.8.P.8.4 Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.</p> <p>SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p> <p>SC.8.P.9.3 Investigate and describe how temperature influences chemical changes.</p>

<p style="text-align: center;">6 <i>Anoxic Tanks</i></p>	<p>SC.6.E.7.4 Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.  SC.6.L.14.3 Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.  SC.7.L.15.2 Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.  SC.7.L.15.3 Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.  SC.7.L.16.4 Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.  SC.7.L.17.1 Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.  SC.8.L.18.2 Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.  SC.8.L.18.4 Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.</p>
<p style="text-align: center;">7 <i>Aeration Tanks</i></p>	<p>SC.6.L.14.3 Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.  SC.7.L.15.2 Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.  SC.7.L.15.3 Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.  SC.7.L.16.4 Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.  SC.7.L.17.1 Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.  SC.8.L.18.2 Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.  SC.8.L.18.4 Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.  SC.8.P.9.2 Differentiate between physical changes and chemical changes.  SC.8.P.9.3 Investigate and describe how temperature influences chemical changes.</p>
<p style="text-align: center;">8A <i>Mixing Facility</i></p>	<p>SC.8.P.8.3 Explore and describe the densities of various materials through measurement of their masses and volumes.  SC.8.P.8.9 Distinguish among mixtures (including solutions) and pure substances.  SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p>
<p style="text-align: center;">8B <i>Secondary Clarifier Tanks</i></p>	<p>SC.8.P.8.3 Explore and describe the densities of various materials through measurement of their masses and volumes.  SC.8.P.8.9 Distinguish among mixtures (including solutions) and pure substances.  SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p>
<p style="text-align: center;">9 <i>Denitrification</i></p>	<p>SC.6.L.14.3 Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.  SC.6.E.7.4 Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.  SC.8.L.18.2 Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.</p>

<p>10 A <i>Chlorine Contact Tanks</i></p>	<p>HE.6.C.1.3 Identify environmental factors that affect personal health.          HE.6.C.1.5 Explain how body systems are impacted by hereditary factors and infectious agents.          HE.7.C.1.8 Classify infectious agents and their modes of transmission to the human body.          SC.6.P.13.3 Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.          SC.7.L.15.3 Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.</p>
<p>10 B <i>UV System</i></p>	<p>HE.6.C.1.3 Identify environmental factors that affect personal health.          HE.6.C.1.5 Explain how body systems are impacted by hereditary factors and infectious agents.          HE.7.C.1.8 Classify infectious agents and their modes of transmission to the human body.          SC.7.P.10.1 Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.          SC.7.P.10.2 Observe and explain that light can be reflected, refracted, and/or absorbed.          SC.7.P.11.2 Investigate and describe the transformation of energy from one form to another.</p>
<p>11 <i>Outflow Cascade</i></p>	<p>SC.6.P.13.1 Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.          SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.          SC.8.P.8.9 Distinguish among mixtures (including solutions) and pure substances.          SC.8.P.9.2 Differentiate between physical changes and chemical changes.</p>
<p>12 <i>Digesters</i></p>	<p>SC.6.E.7.4 Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.          SC.6.L.14.3 Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.          SC.7.L.17.1 Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.          SC.8.L.18.2 Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.          SC.8.L.18.3 Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.          SC.8.P.9.3 Investigate and describe how temperature influences chemical changes.</p>
<p>13 A <i>Dewatering Centrifuges</i></p>	<p>SC.6.P.13.1 Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.</p>
<p>13 B <i>Pelletizer</i></p>	<p>SC.6.E.7.4 Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.          SC.7.L.17.1 Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.          SC.7.L.16.4 Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.          SC.7.P.11.1 Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.          SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa.</p>

