

**Louisiana Content Standards Benchmarks  
LEAP Lessons**



Lesson	Objective	Activity Summary	Benchmarks
<p><b>“Dead or Alive,” The Living and Non-Living of an Aquatic/Marine Ecosystem</b></p>	<p>Students will identify abiotic and biotic components of an ecosystem and understand why it is important for us to care for and protect our ecosystems.</p>	<p>Students give examples of aquatic or marine ecosystems and locate an ecosystem on a Louisiana map. Volunteers represent the components of a wetland ecosystem and use role playing cards to represent different parts of the ecosystem. They discuss what plants need to survive in the ecosystem, what changes might occur if parts of the ecosystem disappeared and how abiotic factors in our ecosystem affect animals Discuss what human beings do to hurt or harm our ecosystems and what might be the consequences of what they do.</p>	<p><u>LS-E-A1</u> identifying the needs of plants and animals, based on age-appropriate recorded observations  <u>LS-E-A2</u>, distinguishing between living and nonliving things  <u>LS-E-A3</u> locating and comparing major plant and animal structures and their functions;  <u>SE-E-A2</u> understanding the components of a food chain  <u>SE-E-A5</u>, understanding that most plant and animal species are threatened or endangered today due to habitat loss or change  <u>SE-M-A1</u>, demonstrating knowledge that an ecosystem includes living and nonliving factors and that humans are an integral part of ecosystems  <u>SI-M-A4</u> developing descriptions, explanations, and graphs using data  <u>SI-E-B6</u>-reviewing and asking questions about the results of investigations</p>
<p><b>Hurricane Hazards</b></p>	<p>Students will gain an awareness of history, terminology and effects of hurricanes, track a hurricane on a tracking chart and be able to share preparation procedures for hurricanes watches, warnings and evacuations with family and neighbors.</p>	<p>Participants estimate the distance sheets of paper will travel and how many sheets will blow away in a measured amount of time when a fan blows over them at low, medium and then fast speed. They discuss what this experiment suggests concerning wind speed and velocity and how this parallels the intensity of hurricanes and the amount of damage they can cause. Review the difference between a hurricane watch and a hurricane warning and what a family should to be prepared for the type of hurricane that is expected.</p>	<p><u>SI-E-B3</u>-choosing appropriate equipment and tools to conduct an experiment  <u>SI-E-B4</u>-developing explanations by using observations and experiments  <u>SI-E-B6</u>-reviewing and asking questions about the results of investigations  <u>SI-M-A3</u>- using mathematics and appropriate tools and techniques to gather, analyze, and interpret data  <u>SI-M-A4</u>-developing descriptions, explanations, and graphs using data  <u>SI-M-A6</u>-comparing alternative explanations and predictions  <u>SI-M-A7</u>-communicating scientific procedures, information, &amp; explanations  <u>N-8-E</u>-selecting and using appropriate computational methods and tools for given situations involving whole numbers (e.g., estimation, mental arithmetic, calculator, or paper and pencil)  <u>M-1-E</u>-applying (measure or solve measurement problem) the concepts of length, area, volume, capacity, weight, mass, time (seconds, minutes, hours, days, weeks, months, years), and temperature (Celsius and Fahrenheit) to real world experiences  <u>M-3-E</u>-using estimation skills to describe, order and compare measures of length, capacity, weight/mass, time and temperature  <u>M-5-E</u>-demonstrating the connection of measurement to the other strands and to real-life situations  <u>D-1-E</u>-collecting, organizing, and describing data based on real-life situations</p>
<p><b>Blood and Guts</b></p>	<p>Students will identify human body organs and their placement and function in the human body.</p>	<p>Using a printed copy of an empty human torso, students place cutouts of parts of the digestive, respiratory, circulatory, skeletal and nervous systems in their proper places.</p>	<p><u>LS-M-A5</u> - investigating human body systems and their functions (including circulatory, digestive, skeletal, respiratory)  <u>SI-E-B6</u>-reviewing and asking questions about the results of investigations</p>

<b>Web of Life</b>	Students will identify plants, animals, and bacteria that make up an ecosystem and tell how each part of the ecosystem is interrelated with other parts of that environment.	Students connect such elements as water, food, air and shelter to other parts such as soil, corn, an oak tree, streams, etc. to help them understand how all living things in an ecosystem are interrelated.	<p><b>LS-E-A1</b> identifying the needs of plants and animals, based on age-appropriate recorded observations</p> <p>SI-M-A7 – communicating scientific procedures, information, and explanations</p> <p>SI-M-B5 – understanding that scientific knowledge is enhanced through peer review, alternative explanations and constructive criticism</p> <p>LS-M-C2 – modeling and interpreting food chains and food webs</p> <p>LS-M-C4 – explaining the interaction and interdependence of non-living and living components within ecosystems</p> <p>SE-M-A 1 – demonstrating knowledge that an ecosystem includes living and non-living factors and that humans are an integral part of ecosystems</p> <p>SE-M-A9 – demonstrating relationships of characteristics of soil types to agricultural practices and productivity</p>
<b>Go With the Flow - Electricity</b>	Students will discover that electricity must have a path for electrons to travel, that the path electrons travel is a circuit, materials that carry electricity are conductors and that materials that do not carry electricity are insulators.	Students create a simple electrical circuit using a battery, a strip of aluminum foil and a small flashlight battery and explain how a circuit works and why it is important to understand how an electrical circuit works.	<p>SI-M-A6 – comparing alternative explanations and predictions</p> <p>SI-M-A7 – Communicating scientific procedures, information and explanations</p> <p>PS-M-B2 – recognizing different forces and describing their effects (gravity, electrical, magnetic)</p> <p>ELA -4-M2 –giving and following directions/procedures</p> <p>ELA -4-M6 – participating in a variety of roles in group discussions</p> <p>ELA -7-M2 – problem-solving by using reasoning skills, life experiences, accumulated knowledge and relevant available information</p> <p>PS-M-C6 – describing the types of energy that can be involved, converted or released in electrical circuits</p>
<b>Magnet Mania</b>	Students will be able to determine the north and south poles of magnets	Students work in groups to determine the north pole of various kinds of magnets, identify different kinds of magnets, locate magnets in various devices we use daily and learn the importance of handling magnets safely.	<p>SI-M-A6 - comparing alternative explanations and predictions</p> <p>SI-M-A7 - Communicating scientific procedures, information and explanations</p> <p>SI-M-A8 - utilizing safety procedures during scientific investigations</p> <p>PS-M-B2 - recognizing different forces and describing their effects (gravity, electrical, magnetic)</p> <p>ELA -4-M2 - giving and following directions/procedures</p> <p>ELA -4-M6 - participating in a variety of roles in group discussions</p> <p>ELA -7-M2 - problem-solving by using reasoning skills, life experiences, accumulated knowledge and relevant available information</p>
<b>Earth Works</b>	Students will identify the three main layers of the earth, describe the composition of the earth's crust and plate tectonics and identify continents and oceans on a printed map.	Students use a boiled egg to discover how the layers of the earth are structured. Using a preprinted puzzle, students follow directions and move plates as instructed to understand the terms: <i>divergence</i> , <i>convergence</i> and <i>transformation</i> .	<p>ESS-E-A1 - understanding that earth materials are rocks, minerals and solids</p> <p>ESS-M-A1 - understanding that the earth is layered by density with an inner and outer core, a mantle and a thin outer crust</p> <p>ESS-M-A2 - understanding that the earth's crust and upper mantle are dividing plates that move in response to convection currents (energy transfers) in the mantle</p>