

**Strand: Using Scientific Knowledge in Life Science
- Ecosystems**

Standard: All students will analyze how humans and the environment interact

Benchmark: Describe positive and negative effects of humans on the environment.

Constructing and Reflecting

SCI.I.1.1 - Generate reasonable questions about the world based on observation.

SCI.I.1.2 - Develop solutions to problems through reasoning, observation, and investigation.

SCI.II.1.1 - Develop an awareness of the need for evidence in making decisions scientifically.

SCI.II.1.2 - Show how science concepts can be illustrated through creative expression such as language arts and fine arts.

SCI.II.1.4 - Develop an awareness of and sensitivity to the natural world.

Vocabulary / Key Concepts

Human effects on the environment:

- garbage
- habitat destruction
- waste water treatment
- land management
- renewable and non-renewable resources

Context

- household wastes
- school wastes
- establishing parks or other green spaces
- recycling

<p style="text-align: center;">Knowledge and Skills</p> <p>Benchmark Clarification: Humans have the ability to change the environment. Human actions such as development, construction, pollution, maintenance, and preservation affect the environment.</p> <ul style="list-style-type: none"> • Discuss the effects of pollution (garbage, waste water treatment) on the environment 	<p style="text-align: center;">Resources</p> <p>Michigan Teacher Network Resources http://mtn.merit.edu/mcf/SCI.III.5.E.4.html</p> <p>Sustainability Education Handbook – web resources for environmental topics – extensive! http://www.urbanoptions.org/SustainEdHandbook/ScienceHeredityHumanImpact.htm</p> <p>Berrien County Resource Recovery Education Specialist – Jill Cooley – EXCELLENT classroom resource person – 983-7111 ex 8234</p> <p>Species Charades – lesson plan to introduce endangered species and the idea of “endangered”. Education World. http://www.education-world.com/a_lesson/03/lp310-01.shtml</p> <p>EEK – Environmental Education for Kids – Univ. of Wisconsin – online mag – Excellent! Lots of Resources on one site. http://www.dnr.state.wi.us/org/caer/ce/eeek/earth/recycle/index.htm</p> <p><i>Animals in Danger Series.</i> Heineman Library. Community Resources: DNR personnel and other individuals, books, internet, local maps. Harlow, Rosie. <i>Nature in Danger.</i> Kingfisher, 1995.</p> <p>“Waste Not.” <i>Sing the Science Standards</i> (Songbook/CD). http://scienceexplosion.indiegroupp.com/</p>
<p style="text-align: center;">Instruction</p> <p>Students will participate in a neighborhood clean up day or around school grounds. Collect the trash and bring it back to the classroom to discuss environmental hazards.</p>	<p style="text-align: center;">Assessment</p> <p>Teacher Observation</p>

Teacher Notes:

<http://www.misd.net/mibig/>

Analyze how humans and the environment interact.

Students need to learn the role that animals play in design of systems managed by humans. Students should describe the positive and negative effects that humans have on the environment. They should understand the systems that best encourage the growth of plants and animals and then can be managed by humans. Finally, they should describe more positive and negative effects that humans have on the environment. Students in middle school should be able to explain how humans benefit from the use of plant and animal materials. In middle school, students should be able to describe ways in which humans change the environment. In high school, they should be able to explain the effects that agriculture and urban development have on ecosystems.