Agriculture Learning Objectives & Resources

1. Look at food and fiber production in Michigan and obtain an understanding of the essential human needs we obtain from our natural resources.
   - *Teacher's Guide to Sustainable Agriculture Component* – MI Envirothon pages 1-4
     http://macd.org/assets/ME/Teacher%27s%20Guide%20to%20Sustainable%20Agriculture%20Component%20(1).pdf
     Michigan Highlights – USDA National Agricultural Statistics Service
     http://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/MichiganFactSheets/STHILGTS.pdf
2. Understand the importance of agriculture in Michigan as a major land use.
   - *The Interrelationship Between Land Use Trends and Michigan Agriculture Policy and Effects of These on Sustainable Agriculture in Michigan* – Michigan Dept. of Agriculture
     http://macd.org/ME/Resource%20Material/Agriculture/Interrelationship%20Between%20Land%20Use%20Trends.pdf
3. Look at land use trends, the importance of agricultural lands to other natural components of Michigan, and look at the impact of land use policies on land use for agriculture.
   - *Why Save Farmland?* – American Farmland Trust
     http://www.farmland.org/programs/protection/default.asp
   - *State Agriculture Profile* (for Michigan) – American Farmland Trust
     http://www.farmland.org/programs/states/mi/default.asp
4. Understand the basic glossary of agricultural terms and agricultural land use practices.
   - *Teacher's Guide to Sustainable Agriculture Component* – MI Envirothon Pages 30 - 32. (see first link)
5. Look at the trend in agriculture - how we got to where we are today - small farms to industrial farming to a sustainable agriculture movement.
   - *Teacher's Guide to Sustainable Agriculture Component* – MI Envirothon Pages 6 - 7. (see first link)
   - *Sustainable Agriculture: An Introduction* – ATTRA
     http://macd.org/assets/ME/Sustainable%20agriculture%20an%20introduction.pdf
   - *Sustainable agriculture: Information access tools.* - Gold, M.V. 2007. Alternative Farming Systems Information Center, National Agricultural Library.
     http://www.nal.usda.gov/afsic/pubs/agnic/susag.shtml
6. Sustainable agriculture relies upon four parts. Understand these four parts: a) agricultural product profitability, b) agricultural practices compatible with the environment, c) energy efficiency in agricultural practices, and d) a system which is supportive of rural and urban communities.
   - *Teacher's Guide to Sustainable Agriculture Component* – MI Envirothon Pages 4 through 5.(see first link)
   - *Exploring Sustainability in Agriculture*
     http://www.sare.org/publications/explore/explore.pdf
   - *Growing Energy on the Farm*
     http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/growing-energy-on-the-farm.html#.VNOOCJ3F-bN
   - *Applying the Principles of Sustainable Farming.* - Sullivan, P. 2003. ATTRA.
     http://macd.org/ME/Resource%20Material/Agriculture/Applying%20the%20Prinziples%20of%20Sustainable%20Farming.pdf

- *Holistic Management: A Whole-farm Decision Making Framework.* - Sullivan, P. 2001. ATTRA. http://macd.org/assets/ME/Holistic_managment_ATTRA.pdf

7. Understand examples of sustainable agriculture practices and methods: maintenance and improvement of soil / prevention of erosion, rotational grazing, composting, crop rotation, manure spreading, organic farming, cover crop use, integrated pest management, and value-added production.
   - *Applying the Principles of Sustainable Farming.* - Sullivan, P. 2003. ATTRA. (see above)
   - *Teacher's Guide to Sustainable Agriculture Component* – MI Envirothon Pages 8 through 24. (See first link)
   - *Crop Rotations* – USDA Natural Resources Conservation Service http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046842.pdf http://www.nrcs.usda.gov/wps/portal/nrcs/detail//?cid=nrcs144p2_027118
   - *Cover Crop Choices for Michigan* – MSU Extension http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2884.pdf
   - *Value-Added Opportunities for Small Farmers* – The Kerr Center http://www.nal.usda.gov/afsic/nsfc/2iie2.htm
   - *Working Trees for Agriculture* – USDA National Agroforestry Center http://nac.unl.edu/documents/workingtrees/brochures/wta.pdf
   - *Working Trees for Livestock* – USDA National Agroforestry Center http://nac.unl.edu/documents/workingtrees/brochures/wtl.pdf
   - *Conservation Tillage Facts* – Conservation Technology Information Center http://www.ctic.purdue.edu/resourcedisplay/281/
   - *Conservation Buffer Facts* – Conservation Technology Information Center http://www.ctic.purdue.edu/resourcedisplay/284/
   - *Soil Management* - Sullivan, P. 2004. http://macd.org/assets/ME/Soil_Management_ATTRA.pdf

Additional Internet Resources for Agriculture

ATTRA, The National Sustainable Agriculture Information Service: Comprehensive list of topics, great Factsheets and publications covering all aspects of Agriculture https://attra.ncat.org/publication.html#soils

SARE: (Sustainable Agriculture Research & Education) Sustainable Agriculture: Basic Principles and Concept Overview http://www.sare.org/Learning-Center/Topic-Rooms

Agriculture in the Classroom http://www.agclassroom.org/

State Agriculture Profile (for Michigan) – American Farmland Trust http://www.farmland.org/programs/states/mi/default.asp

Farming on the Edge: Sprawling Development Threatens America's Best Farmland http://www.farmland.org/resources/fote/default.asp