Land and Environment
Grade Three

This CD contains lesson activities to accompany a set of posters repurposed from the original Michigan Environmental Education Curriculum Support (MEECS) project. The activities are designed to help teachers meet some of the 3rd grade science and social studies Grade Level Content Expectations.

The posters are: **Michigan's Human World**; **Michigan's Water World**; **Michigan Land Stewardship & Land Use/Cover**; **Michigan's Land, Air and Water**; **Michigan Land Cover**; and **Michigan's Energy Resources**. The set includes three 2-sided posters (one of each of the 6 posters per side) and 10 placemat size posters of *Michigan's Land, Air, and Water*.

In addition to the lesson plan and the student activity sheets (*Michigan's Human World* and *Michigan's Water World* activities are combined), resources for each of the posters contain an optional PowerPoint Presentation, which is referenced in the lesson plan. Any of the slides can be printed and used as transparencies. For some of the posters, additional resource sheets are included. The Data Layers (in *Michigan's Human and Water World* lesson and in *Michigan's Land Stewardship* lesson) can be made into overhead transparencies and combined into layers of data for the discussion questions.

The materials that accompany *Michigan's Human World* and *Michigan's Water World* poster include an optional introductory lesson activity to help students understand watersheds.

Several of the lessons include references to questions which are specific to one or more modes of spatial thinking. A list of modes of spatial thinking and examples are found in the resource folder of the CD.

Any of the posters, as well as the lessons, can be used as stand-alone activities in any order. A suggested sequence is as follows:
1. Michigan's Human/Water World
2. Michigan Land Stewardship and Land Use/Cover
3. Michigan's Land, Air, and Water
4. Michigan Land Cover
5. Michigan's Energy Resources

The resource folder contains links to sources for Michigan maps, as well as additional materials to help teach about Michigan.

The Michigan Geographic Alliance website (www.cst.cmich.edu/mga) also offers the following lessons for Michigan Studies:
• Connecting Farm to City (Michigan Agriculture)
• Forest for the Trees (Michigan Forestry)
• Treasure Hunt (Michigan's natural resources)
• Watershed Wonderland (Michigan's water resources)

Poster Activity Overview

Lesson Overview	Objective
Michigan's Human World/Michigan's Water World The activities in this lesson are designed as discussions to help students understand both physical and human characteristics of our state. The activities also support spatial thinking skills (specifically hierarchy, patterns, regions, and association) as well as higher level thinking skills.	• describe major physical and human characteristics of your community and Michigan today • describe some areas of Michigan heavily impacted by human activities • locate areas of land use activities in Michigan • describe how people use and modify the natural resource of rivers and how people care for this natural resource
Michigan Land Stewardship and Land Use/Cover The activities in this lesson are designed to help students understand both physical and human regions of our state and who is responsible for taking care of the land. The activities also support spatial thinking skills (specifically region, influence, pattern and association) as well as higher level thinking skills.	• describe major land uses in Michigan today • locate areas of land use activities in Michigan and the Great Lakes Region • describe the different groups of people who own or are responsible for taking care of Michigan's land
Michigan's Land, Air, and Water The three major land uses in Michigan (agriculture, urban development and forestry) are represented on the poster, as well as some economic activities based on other important natural resources (e.g., gravel mining, tourism/recreation). Spatial thinking skills in this lesson are region, comparison, and association.	• describe major land uses in Michigan today • describe some positive and negative effects of land use activities on air and water quality • name major economic activities in Michigan that depend on water • name major economic activities in Michigan that depend on soil or land and explain why each is located there
Michigan Land Cover This lesson compares land cover in Michigan in two eras. Students can investigate how the land cover has changed, and learn the major land uses today in Michigan. Spatial thinking skills in this lesson include region, comparison, and transition.	• describe major land cover in Michigan in 1800 and today • compare the changes in Michigan's land cover since 1800 • explain some reasons for the change in land cover since 1800 • describe how Michigan today can be divided into regions based on its major land cover
Michigan's Energy Resources In this lesson, students will examine renewable and non-renewable sources for electrical energy. They will locate generation plants in Michigan and propose new locations, based on resources. Spatial thinking skills in the lesson include pattern and region.	• Identify several resources used to make electricity in Michigan • Locate power plants in Michigan and explain why they are located where they are • Describe the difference between renewable and non-renewable resources

Michigan's Human World/Michigan's Water World

Social Studies:
- Use cardinal directions (north, south, east, west) to describe the relative location of significant places in the immediate environment. **3 - G1.0.1**
- Use thematic maps to identify and describe the physical and human characteristics of Michigan. **3 - G1.0.2**
- Use a variety of visual materials and data sources to describe ways Michigan can be divided into regions. **3 - G2.0.1**
- Describe how people adapt to, use, and modify the natural resources of Michigan. **3 – G5.0.2**

Science:
- Describe ways humans are dependent on the natural environment. **E.ES.03.51**
- Describe helpful or harmful effects of humans on the environment. **E.ES.03.52**

Michigan Land Stewardship and Land Use/Cover

Social Studies:
- Use thematic maps to identify and describe the physical and human characteristics of Michigan. **3 - G1.0.2**
- Use a variety of visual materials and data sources to describe ways Michigan can be divided into regions. **3 - G2.0.1**
- Describe different regions to which Michigan belongs. **3 – G2.0.2**
- Describe how people adapt to, use, and modify the natural resources of Michigan. **3 – G5.0.2**

Michigan's Land, Air, and Water

Social Studies:
- Use thematic maps to identify and describe the physical and human characteristics of Michigan. **3 - G1.0.2**
- Use a variety of visual materials and data sources to describe ways Michigan can be divided into regions. **3 - G2.0.1**
- Describe major kinds of economic activity in Michigan today, and explain the factors influencing the location of these economic ctivities. **3 - G4.0.1**
- Describe how people adapt to, use, and modify the natural resources of Michigan. **3 – G5.0.2**

Michigan Land Cover

Social Studies:
- Use thematic maps to identify and describe the physical and human characteristics of Michigan. **3 - G1.0.2**
- Use a variety of visual materials and data sources to describe ways Michigan can be divided into regions. **3 - G2.0.1**
- Describe how people adapt to, use, and modify the natural resources of Michigan. **3 – G5.0.2**

Michigan's Energy Resources

Social Studies:
- Describe how people adapt to, use, and modify the natural resources of Michigan. **3 - G5.0.2**

Science:

Science Processes
- Identify technology used in everyday life. **S.RS.03.16**

Earth Science
- Identify natural resources (metals, fuels, fresh water, fertile soil, and forests). **E.ES.03.41**
- Classify renewable (fresh water, fertile soil, forests) and non-renewable (fuels, metals) resources. **E.ES.03.42**
- Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable, and non-renewable resources.) **E.ES.03.52**

Solid Earth
- Describe how materials taken from the Earth can be used as fuels for heating and transportation. **E.SE.03.32**

Poster Activity Master Materials List

Michigan's Human World/Michigan's Water World

Reproducible Materials	Materials in MEECS kit
per class	*per class*

• *Data Layers* (transparencies)
  – Michigan Borders
  – Longitude/Latitude
  – County Borders
  – County Names
  – Interstates, U.S. Highways, State Highways
  – Watersheds (use map to locate and name)
  – Rivers and Lakes
  – Cities
• Optional Activity: *Introduction to Watersheds: What is a Watershed?*
 	
per student
• *Political Address* (student activity)
• *Watershed Address* (student activity)
• *Where Does Our Water Go?* (student activity)
	• *Michigan's Water World* poster
	• *Michigan's Human World* poster
	• *Human/Water World* PPT

Michigan's Human/Michigan's Water World Optional: What is a Watershed?

Reproducible Materials	Materials in MEECS kit
per student	*per class*
• *Michigan Rivers* map (student activity) • *Great Lakes Region* map (student resource)	• Optional: *What is a Watershed?* PPT

Michigan Land Stewardship & Land Use/Cover

Reproducible Materials	Materials in MEECS kit
per class	*per class*

• *Data Layers* (transparencies)
  – Michigan Forests
  – State and National Forests
  – County Borders
  – State Parks
  – Interstates, U.S. Highways, State Highways
  – Urban Areas 2000
  – Michigan Land Use: Forest, Agriculture, Urban
  – Michigan Borders
 	
per group
• *Land Uses in Michigan* (student activity)
 	
per student
• *Public Lands Near You* (student activity)
• *Michigan Land Use Blank Coloring Page* (student activity)
• *Consequences of Major Land Uses* (student activity)
	• *Michigan Land Stewardship & Land Use/Cover* poster
	• *Land Stewardship* PPT

Michigan's Land, Air, and Water

Reproducible materials	**Materials in MEECS kit**
per group • *Land Use Connections* (student activity) • *Economic Activity Resource Cards* • *Consequences of Land Use* (student activity) *per student* • *Michigan's Land, Air and Water* (student activity) • *How is the Land in Michigan Used?* (student activity)	*per class* • *Michigan's Land, Air, and Water* poster • *Land, Air, and Water* PPT • *Michigan Land Stewardship & Land Use/Cover* poster *per group* • One placemat poster of *Michigan's Land, Air and Water*

Michigan Land Cover

Reproducible materials	**Materials in MEECS kit**
per student • *Data Sheet 1* (student activity, transparency master) • *Land Cover in Michigan* (student activity)	*per class* • *Michigan Land Cover* poster • *Michigan Land Cover* PPT

Michigan's Energy Resources

Reproducible materials	**Materials in MEECS kit**
per class • *Michigan's Electricity Generation* (transparency) • *Michigan's Energy Production Maps* (transparency) • *Which Resources Do You Use?* (transparency) *per group* • *How Do You Use Energy?* (student activity) • *Resource Cards* (student activity) *per student* • *Michigan's Electricity Generation* (student activity) • *Energy Facilities Data Sheet* (student resource) • *Mapping Michigan's Resources* (student activity) • *Michigan's Energy Production Map* (student activity) • *Energy Tic-Tac-Toe* (student activity)	*per class* • *Michigan's Energy Resources* poster • *Michigan Energy* PPT

Michigan Grade Level Content Expectations Correlation for Poster Activities

X - Addresses/Supports

Category	Content Expectation	1. Human/Water World	2. Land Stewardship and Land Use/Cover	3. Land, Air, and Water	4. Land Cover	5. Energy Resources
SCIENCE — Earth Science	E.ES.03.41 Identify natural resources (metals, fuels, fresh water, fertile soil, and forests).					X
	E.ES.03.42 Classify renewable (fresh water, fertile soil, forests) and non-renewable (fuels, metals) resources.					X
	E.ES.03.51 Describe ways humans are dependent on the natural environment.	X				
	E.ES.03.52 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable, and non-renewable resources).	X				X
Solid Earth	E.SE.03.32 Describe how materials taken from the Earth can be used as fuels for heating and transportation.					X
Science Processes	S.RS.03.16 Identify technology used in everyday life.	X				
SOCIAL STUDIES	3 – G1.0.1 Use cardinal directions (north, south, east, west) to describe the relative location of significant places in the immediate environment.	X				
	3 – G1.0.2 Use thematic maps to identify and describe the physical and human characteristics of Michigan.	X	X	X	X	
	3 – G2.0.1 Use a variety of visual materials and data sources to describe ways Michigan can be divided into regions.	X	X	X	X	
	3 – G2.0.2 Describe different regions to which Michigan belongs.		X			
	3 – G4.0.1 Describe major kinds of economic activity in Michigan today, and explain the factors influencing the location of these economic activities.			X		
	3 – G5.0.2 Describe how people adapt to, use, and modify the natural resources of Michigan.	X	X	X	X	X