

Michigan Grade Level Content Expectations

Grade 6-7 Science:

- Describe the effect humans and other organisms have on the balance of the natural world. **S.RS.06.17**
- Explain how mass is conserved as it changes from state to state in a closed system. **P.CM.06.12**
- Illustrate structure of molecules using models or drawings. **P.PM.07.23**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**

HS Earth Science:

- Explain how carbon moves through the Earth system and how it may benefit or harm society. **E2.3D**

HS Biology:

- Examine the negative impact of human activities. **B3.4C**

HS Chemistry:

- Balance simple chemical equations applying the conservation of matter. **C5.2A**
- Distinguish between chemical and physical changes in terms of the reactants and products. **C5.2B**

Grade 6-8 Social Studies:

- Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere.
6 - G5.1.1, 7 - G5.1.1

Grade 6-7 Science:

- Describe the effect humans and other organisms have on the balance of the natural world. **S.RS.06.17**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**

HS Earth Science:

- Explain how the impact of human activities on the environment can be understood through the analysis of interactions between the four Earth systems. **E2.4B**

HS Biology:

- Examine the negative impact of human activities. **B3.4C**

Grade 6-8 Social Studies:

- Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere.
6 - G5.1.1, 7 - G5.1.1

Grade 6-7 Science:

- Analyze information from data tables and graphs to answer scientific questions. **S.IA.06.11**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**

Grade 6-8 Social Studies:

- Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere.
6 - G5.1.1, 7 - G5.1.1

HS Social Studies:

- Read and interpret data in tables and graphs. **P2.2**

Grade 6-7 Science:

- Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems. **L.EC.06.41**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**
- Describe the atmosphere as a mixture of gases. **E.FE.07.12**

HS Earth Science:

- Conduct scientific investigations using appropriate tools and techniques. **E1.1C**

Grade 6-8 Social Studies:

- Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere.
6 - G5.1.1, 7 - G5.1.1

Grade 6-7 Science:

- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**
- Describe the atmosphere as a mixture of gases. **E.FE.07.12**

HS Biology:

- Examine the negative impact of human activities. **B3.4C**

Grade 6-7 Science:

- Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures. **S.RS.06.19**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**

HS Earth Science:

- Analyze how science and society interact from a historical, political, economic, or social perspective. **E1.2k**

HS Chemistry:

- Predict products of an acid-based neutralization. **C5.7B**
- Explain why sulfur oxides and nitrogen oxides contribute to acid rain. **C5.7H**

6**Grade 6-8 Social Studies:**

- Use historical perspective to analyze global issues faced by humans long ago and today. **6 - H1.4.3**
- Explain that communities are affected positively or negatively by changes in technology. **6 - G2.2.2**
- Explain the challenges to governments and the cooperation needed to address international issues in the Western Hemisphere. **6 - C4.3.2**
- Explain why and how historians use eras and periods as constructs to organize and explain human activities over time. **7 - H1.1.1**
- Identify the role of the individual in history and the significance of one person's ideas. **7 - H1.2.6**
- Explain how governments address national issues and form policies, and how the policies may not be consistent with those of other countries. **7 - C4.3.1**

Grade 6-7 Science:

- Design solutions to problems using technology. **S.RS.06.16**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**

HS Earth Science:

- Critique solutions to problems, given criteria and scientific constraints. **E1.2f**
- Identify scientific tradeoffs in design decisions and choose among alternative solutions (e.g. best management practices, resource quantity and quality trade-offs). **E1.2g**

Grade 6-8 Social Studies:

- Explain that communities are affected positively or negatively by changes in technology. **6 - G2.2.2**
- Explain the challenges to governments and the cooperation needed to address international issues in the Western Hemisphere. **6 - C4.3.2**
- Clearly state an issue as a question or public policy, trace the origins of the issue, analyze various perspectives, and generate and evaluate alternate resolutions. **6 - P3.1.1, 7 - P3.1.1, 8-P3.1.1, P3.1**
- Conduct research on contemporary global topics and issues, compose persuasive essays, and develop a plan for action. **7 - G6.1.1**

7**HS Social Studies:**

- Identify and research various viewpoints on significant public policy issues. **C 6.1.1**
- Address a public issue by suggesting alternative solutions or courses of action, evaluating the consequences of each, and proposing an action to address the issue or resolve the problem. **C 6.1.4**
- Participate in a real or simulated public hearing or debate and evaluate the role of deliberative public discussions in civic life. **C 6.2.10**

Grade 6-7 Science:

- Analyze information from data tables and graphs to answer scientific questions. **S.IA.06.11**
- Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems. **L.EC.06.41**
- Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species. **E.ES.07.42**
- Compare and contrast the difference and relationship between weather and climate. **E.ES.07.71**
- Describe how different weather occurs due to the constant motion of the atmosphere from the energy of the sun reaching the surface of the earth. **E.ES.07.72**

HS Earth Science:

- Explain how carbon moves through the Earth system and how it may benefit or harm society. **E2.3D**
- Explain how the impact of human activities on the environment can be understood through the analysis of interactions between the four Earth systems. **E2.4B**
- Explain the natural mechanism of the greenhouse effect, including comparisons of the major greenhouse gases. **E5.4A**
- Describe natural mechanisms that could result in significant changes in climate. **E5.4B**
- Analyze the empirical relationship between the emission of carbon dioxide, atmospheric carbon dioxide levels, and the average global temperature over the past 150 years. **E5.4C**

8**HS Biology:**

- Describe the greenhouse effect and list possible causes. **B3.4D**
- List the possible causes and consequences of global warming. **B3.4E**

Grade 6-8 Social Studies:

- Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere. **6 - G5.1.1, 7 - G5.1.1**

Michigan Grade Level Content Expectations Correlation for Air Quality Unit

X- Addresses/Supports

	1. What Gets into the Air?	2. Why Should We Be Concerned About Air Quality	3. What Are the Sources of Air Pollution?	4. How Can We Monitor Air Quality?	5. How Can We Tell What the Quality of the Air Is Today?	6. What Has Been Done About Air Pollution?	7. What Can We Do About Air Pollution?	8. How Can Our Actions Impact the World?
Grade 6-7 Science	E.E.S.07.42 Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere and how pollution impacts habitats, climatic change, threatens or endangers species.	X	X	X	X	X	X	X
	E.E.S.07.71 Compare and contrast the difference and relationship between weather and climate.							X
	E.E.S.07.72 Describe how different weather occurs due to the constant motion of the atmosphere from the energy of the sun reaching the surface of the earth.							X
	E.FE.07.12 Describe the atmosphere as a mixture of gases.				X			
	L.EC.06.41 Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.				X			X
	P.CM.06.12 Explain how mass is conserved as it changes from state to state in a closed system.	X						
	P.PM.07.23 Illustrate structure of molecules using models or drawings.	X						
	S.IA.06.11 Analyze information from data tables and graphs to answer scientific questions.			X				X
	S.RS.06.16 Design solutions to problems using technology.							X
	S.RS.06.17 Describe the effect humans and other organisms have on the balance of the natural world.	X	X					
	S.RS.06.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.						X	
	E1.1C Conduct scientific investigations using appropriate tools and techniques.				X			
	E1.2f Critique solutions to problems, given criteria and scientific constraints.							X
	E1.2g Identify scientific tradeoffs in design decisions and choose among alternative solutions (e.g. best management practices, resource quantity and quality trade-offs).							X
E1.2k Analyze how science and society interact from a historical, political, economic, or social perspective.						X		
E2.3D Explain how carbon moves through the Earth system and how it may benefit or harm society.	X							
E2.4B Explain how the impact of human activities on the environment can be understood through the analysis of interactions between the four Earth systems.		X						
E5.4A Explain the natural mechanism of the greenhouse effect, including comparisons of the major greenhouse gases.								
E5.4B Describe natural mechanisms that could result in significant changes in climate.								
E5.4C Analyze the empirical relationship between the emission of carbon dioxide, atmospheric carbon dioxide levels, and the average global temperature over the past 150 years.								
								X
SCIENCE								
HS Earth Science								

Michigan Grade Level Content Expectations (Continued) Correlation for Air Quality Unit X- Addresses/Supports		Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8
SCIENCE	B3.4C Examine the negative impact of human activities.	X	X			X			
	B3.4D Describe the greenhouse effect and list possible causes.								X
	B3.4E List the possible causes and consequences of global warming.								X
	C5.2A Balance simple chemical equations applying the conservation of matter.	X							
	C5.2B Distinguish between chemical and physical changes in terms of the reactants and products.	X							
	C5.7B Predict products of an acid-based neutralization.							X	
	C5.7H Explain why sulfur oxides and nitrogen oxides contribute to acid rain.							X	
SOCIAL STUDIES	6 - C4.3.2 Explain the challenges to governments and the cooperation needed to address international issues in the Western Hemisphere.						X	X	
	6 - G2.2.2 Explain that communities are affected positively or negatively by changes in technology.						X	X	
	6 - G5.1.1, 7 - G5.1.1 Describe the environmental effects of human action on the atmosphere, biosphere, lithosphere and hydrosphere.	X	X	X	X				X
	6 - H1.4.3 Use historical perspective to analyze global issues faced by humans long ago and today.							X	
	6 - P3.1.1, 7 - P3.1.1, 8-P3.1.1, P3.1 Clearly state an issue as a question or public policy, trace the origins of the issue, analyze various perspectives, and generate and evaluate alternate resolutions.								X
	7 - H1.1.1 Explain why and how historians use eras and periods as constructs to organize and explain human activities over time.							X	
	7 - H1.2.6 Identify the role of the individual in history and the significance of one person's ideas.							X	
	7 - C4.3.1 Explain how governments address national issues and form policies, and how the policies may not be consistent with those of other countries.							X	
	7 - G6.1.1 Conduct research on contemporary global topics and issues, compose persuasive essays, and develop a plan for action.								X
	C 6.1.1 Identify and research various viewpoints on significant public policy issues.								
HS Social Studies	C 6.1.4 Address a public issue by suggesting alternative solutions or courses of action, evaluating the consequences of each, and proposing an action to address the issue or resolve the problem.								X
	C 6.2.10 Participate in a real or simulated public hearing or debate and evaluate the role of deliberative public discussions in civic life.								X
	P2.2 Read and interpret data in tables and graphs.			X					