

### Backyard Birding

- S.IP.04.11** Make purposeful observation of the natural world using the appropriate senses.
- S.IP.04.12** Generate questions based on observations.
- S.IP.04.13** Plan and conduct simple and fair investigations.
- S.IA.04.12** Share ideas about science through purposeful conversation in collaborative groups.
- S.IA.04.13** Communicate and present findings of observations and investigations.
- S.IA.04.14** Develop research strategies and skills for information gathering and problem solving.
- S.RS.04.18** Describe the effect humans and other organisms have on the balance of the natural world.
- L.OL.04.16** Determine that animals require air, water, and a source of energy and building material for growth and repair.
- L.EV.04.21** Identify individual differences (color, leg length, size, wing size, leaf shape) in organisms of the same kind.
- L.EV.04.22** Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.
- L.EC.04.11** Identify organisms as part of a food chain or food web.

### Great Lakes Adventure

- S.IP.E.1** Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.
- S.IA.E.1** Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.
- S.RS.E.1** Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.
- L.OLE.1** Life Requirements—Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.
- L.EC.E.1** Interactions—Organisms interact in various ways including providing food and shelter to one another. Some interactions are helpful; others are harmful to the organism and other organisms.
- LS1.A:** Structure and Function—Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.
- ESS2.A:** Earth Materials and Systems—Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.
- ESS2.E:** Biogeology—Living things affect the physical characteristics of their regions.
  - **4-ESS2-2** Patterns can be used as evidence to support an explanation.
- 4-G1.0.2** Use cardinal and intermediate directions to describe the relative location of significant places in the United States.
- 4-G2.0.1** Describe ways in which the United States can be divided into different regions (e.g., political regions, economic regions, landform regions, vegetation regions).
- 4-G2.0.2** Compare human and physical characteristics of a region to which Michigan belongs (e.g., Great Lakes, Midwest) with those of another region in the United States.
- 4-G5.0.1** Assess the positive and negative effects of human activities on the physical environment of the United States.
- R.I. 4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

**RI.4.7** Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

**W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research.

**MP.2** Reason abstractly and quantitatively.

## Great Lakes Food Chain

**L.EC.E.1** Interactions—Organisms interact in various ways including providing food and shelter to one another. Some interactions are helpful; others are harmful to the organism and other organisms.

## Sea Lamprey Suck! Vampire Tag

**L.EC.E.1** Interactions—Organisms interact in various ways including providing food and shelter to one another. Some interactions are helpful; others are harmful to the organism and other organisms.

## Let's Rock

**S.IP.04.11** Make purposeful observation of the natural world using the appropriate senses.

**S.IP.04.12** Generate questions based on observations.

**S.IP.04.13** Plan and conduct simple and fair investigations.

**S.IP.04.14** Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).

**S.IA.04.13** Communicate and present findings of observations and investigations.

**E.ST.04.31** Explain how fossils provide evidence of the history of the Earth.

## Michigan through the Ages Tour

**4 – H3.0.1** Use historical inquiry questions to investigate the development of Michigan's major economic activities (agriculture, mining, manufacturing, lumbering, tourism, technology, and research) from statehood to present.

- What happened?
- When did it happen?
- Who was involved?
- How and why did it happen?
- How does it relate to other events or issues in the past, in the present, or in the future?
- What is its significance?

**4 – H3.0.2** Use primary and secondary sources to explain how migration and immigration affected and continue to affect the growth of Michigan.

**4 – H3.0.3** Describe how the relationship between the location of natural resources and the location of industries (after 1837) affected and continues to affect the location and growth of Michigan cities.

**4 – H3.0.4** Draw upon stories, photos, artifacts, and other primary sources to compare the life of people in towns and cities in Michigan and in the Great Lakes region during a variety of time periods from 1837 to the present (e.g., 1837-1900, 1900-1950, 1950-2000).

**4 – H3.0.5** Use visual data and informational text or primary accounts to compare a major Michigan economic activity today with that same or a related activity in the past.

**4 – H3.0.8** Describe past and current threats to Michigan's natural resources; describe how Michigan worked in the past and continues to work today to protect its natural resources.

## Michigan through the Ages: Log Marks Activity

**4 – H3.0.1** Use historical inquiry questions to investigate the development of Michigan's major economic activities (agriculture, mining, manufacturing, lumbering, tourism, technology, and research) from statehood to present.

- What happened?

- When did it happen?
- Who was involved?
- How and why did it happen?
- How does it relate to other events or issues in the past, in the present, or in the future?
- What is its significance?

### Michigan through the Ages: Michigan in the Civil War

**4 – H3.0.5** Use visual data and informational text or primary accounts to compare a major Michigan economic activity today with that same or a related activity in the past.

### Michigan through the Ages: Uncovering the Trust about Michigan Land Cover Map Activity

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### Uncovering Michigan’s Prehistoric Past

**E.ST.04.31** Explain how fossils provide evidence of the history of the Earth.

**E.ST.04.32** Compare and contrast life forms found in fossils and organisms that exist today.

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