

Kensington Farm Center
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**Huron-Clinton
Metroparks**



HARVEST ADVENTURE

KENSINGTON FARM CENTER SCHOOL PROGRAMS

**CORRESPONDING GRADE LEVEL CONTENT
EXPECTATIONS**

For Science v.1.09 and Social Studies v.12/07

KENSINGTON FARM CENTER SCHOOL PROGRAMS
CORRESPONDING GRADE LEVEL CONTENT EXPECTATIONS
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School programs at the Kensington Farm Center are a surprisingly effective tool available to teachers concerned with meeting targeted learning standards.

Integrating agriculture into the elementary curriculum is a natural and important process. As more and more rural areas become urbanized, fewer children are actually associated with food and fiber production and the value behind the process. According to some estimates, just 2-3% of the U.S. population produces the food and fiber that the rest of the population consumes. Yet agriculture is a vital aspect of society. It is therefore important for students to develop an awareness of the science behind the foods and fibers they use and to make a connection with their state and country's agricultural pasts. School programs at the Kensington Farm Center allow students to do just that, gaining a first-hand perspective on the basic elements of agriculture as they experience the sights, sounds and smells of farm life.

Students will engage in drawing their own connections through first-hand contact with their subject matter. A program at the Farm Center may be a resource for teachers by either laying a foundation for successful assimilation of concepts or as an effective tool for unit review. In addition, each program targets many of the core concepts essential in grade specific Science and Social Studies learning expectations as outlined by the Michigan Department of Education. This document is offered to assist you with your unit development. Arranged by program topic and grade level, look to the end of each discipline standard for additional info (*in italics*) on how the program will meet the listed expectations. In some instances, the program may not meet all of the requirements of an expectation but can be a useful addition for student comprehension as a recall aid.

HARVEST ADVENTURE

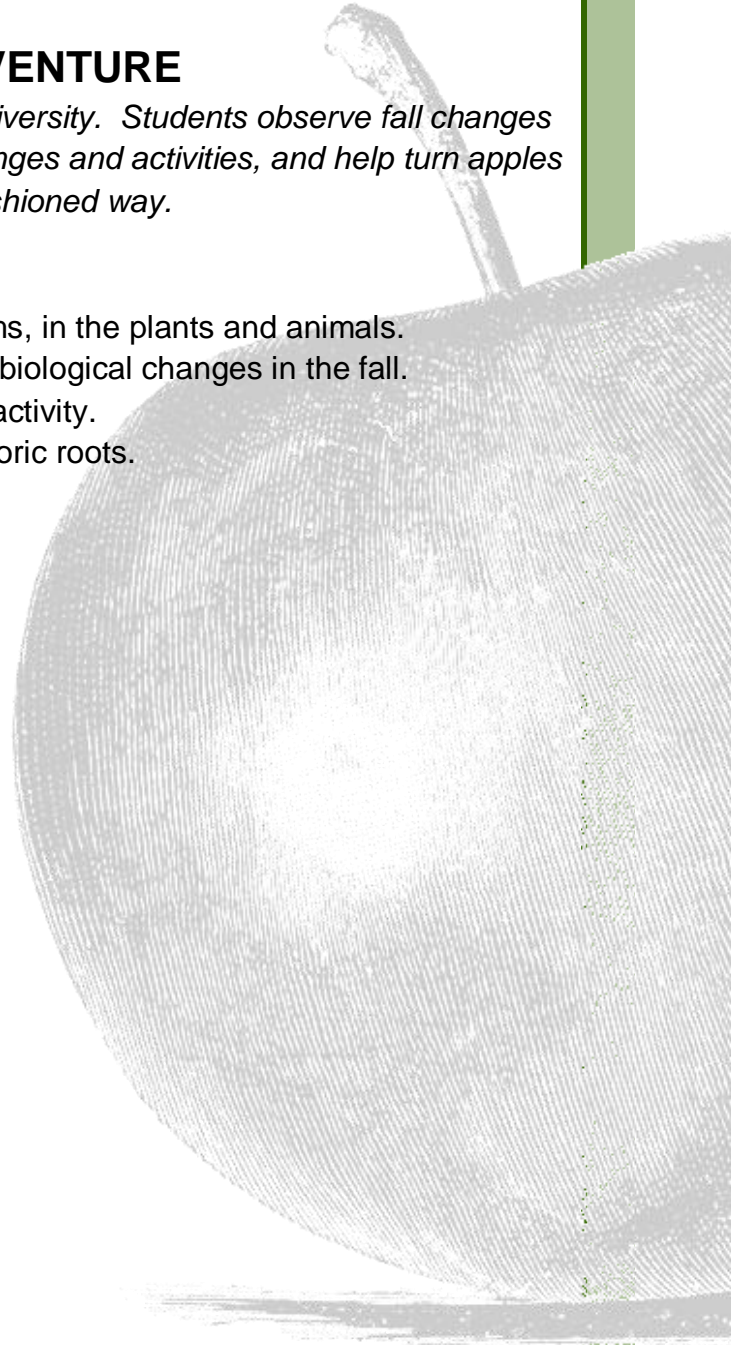
Students explore plant life cycles and animal diversity. Students observe fall changes on the farm, make predictions on seasonal changes and activities, and help turn apples into cider the old-fashioned way.

Big Ideas

- Seasonal changes can be witnessed on farms, in the plants and animals.
- Livestock exhibit predictable behavioral and biological changes in the fall.
- The production of apple cider is a seasonal activity.
- Cider making is a scientific process with historic roots.

Concepts

- primary and secondary sources
- traditional stories
- comparisons
- settler
- natural resource use
- production
- goods and services
- economic activity
- properties of water
- water movement
- life cycles of plants
- observable characteristics of plants
- hereditary traits
- classification
- measurable physical properties
- material composition
- weather changes



*Grade Level Content
Expectations for*
KINDERGARTEN

SCIENCE

SCIENCE PROCESSES

Inquiry Process

S.IP.00.11

Make purposeful observation of the natural world using the appropriate senses.

S.IP.00.12

Generate questions based on observations.

Students will be able to ask informative questions based on experiences and observations.

LIFE SCIENCE

Organization of Living Things

L.OL.00.11

Identify that living things have basic needs.

Students will be able to identify the physical needs of domesticated, farm animals.

SOCIAL STUDIES

GEOGRAPHY

G2 Places and Regions

K - G2.0.1

Identify and describe places in the immediate environment (e.g., classroom, home, playground).

Students will be introduced to a farm and the place components of a farm (barn, stall, pen, coop, manger)

G5 Environment and Society

K - G5.0.1

Describe ways people use the environment to meet human needs and wants (e.g., food, shelter, clothing).

Students will be introduced to the concept of domestication as humans keeping animals for the goods and services they provide.

ECONOMICS

E1 Market Economy

K - E1.0.1

Describe economic wants they have experienced.

K - E1.0.2

Distinguish between goods and services.

K - E1.0.3

Recognize situations in which people trade.

Students will recognize products from the farm as goods they use or consume at home.

SCIENCE**SCIENCE PROCESSES**

Inquiry Process

S.IP.01.11

Make purposeful observation of the natural world using the appropriate senses.

S.IP.01.12

Generate questions based on observations.

Students will be able to ask informative questions based on experiences and observations.

LIFE SCIENCE

Organization of Living Things

L.OL.01.13

Identify the needs of animals.

Students will be able to identify basic needs of animals from witnessing and discussing how these needs are met on a farm, particularly in preparation for winter.

Heredity

L.HE.01.11

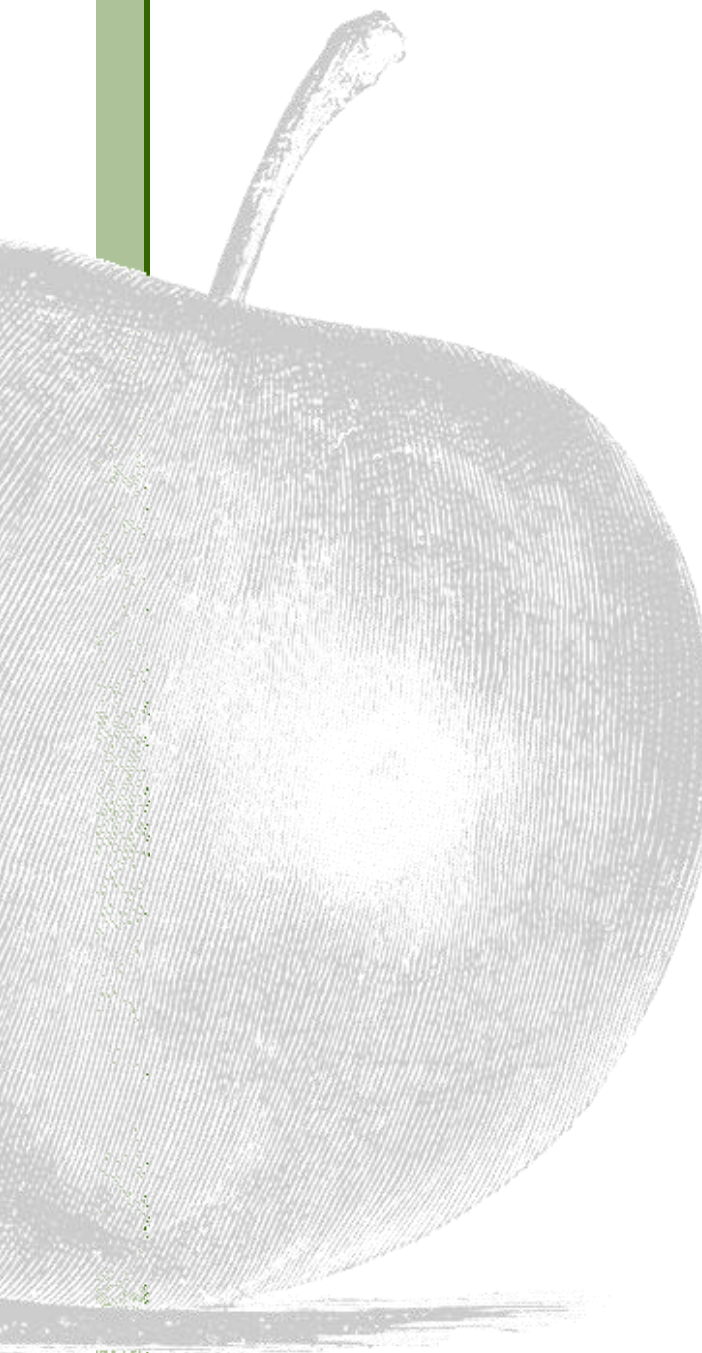
Identify characteristics (for example: body coverings, beak shape, number of legs, body parts) that are passed on from parents to young.

L.HE.01.12

Classify young animals based on characteristics that are passed on from parents (for example: dogs/puppies, cats/kittens, cows/calves, chicken/chicks).



*Grade Level Content
Expectations for
FIRST GRADE*



Students will be able to identify observable, physical traits found in various domesticated animals.

EARTH SCIENCE

Earth Systems

E.ES.01.21

Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy); precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).

E.ES.01.22

Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.

Students will use the premise of seasonal change to identify activity on a farm in preparation for weather conditions.

SOCIAL STUDIES

HISTORY

H2 Living and Working Together in Families and Schools

1 - H2.0.6

Compare life today with life in the past using the criteria of family, school, jobs, or communication.

Students will learn about past farm practices and see examples of early farm equipment. Students will also learn about the importance of cider making for home consumption in the past.

GEOGRAPHY

G2 Places and Regions

1 - G2.0.1

Distinguish between physical (e.g., clouds, trees, weather) and human (e.g., buildings, playgrounds, sidewalks) characteristics of places.

G5 Environment and Society

1 - G5.0.1

Describe ways in which people modify (e.g., cutting

down trees, building roads) and adapt to the environment (e.g., clothing, housing, transportation). *Students will be introduced to the concept of domestication as humans keeping animals for the goods and services they provide through this process modifying the features of the animals.*

ECONOMICS

E1 Market Economy

1 - E1.0.1

Distinguish between producers and consumers of goods and services.

1 - E1.0.2

Describe ways in which families consume goods and services.

1 - E1.0.4

Describe reasons why people voluntarily trade.

1 - E1.0.5

Describe ways in which people earn money (e.g., providing goods and services to others, jobs). *Students will recognize that farmers produce goods (foods and fibers) which people like the students' families buy and consume.*

SCIENCE

SCIENCE PROCESSES

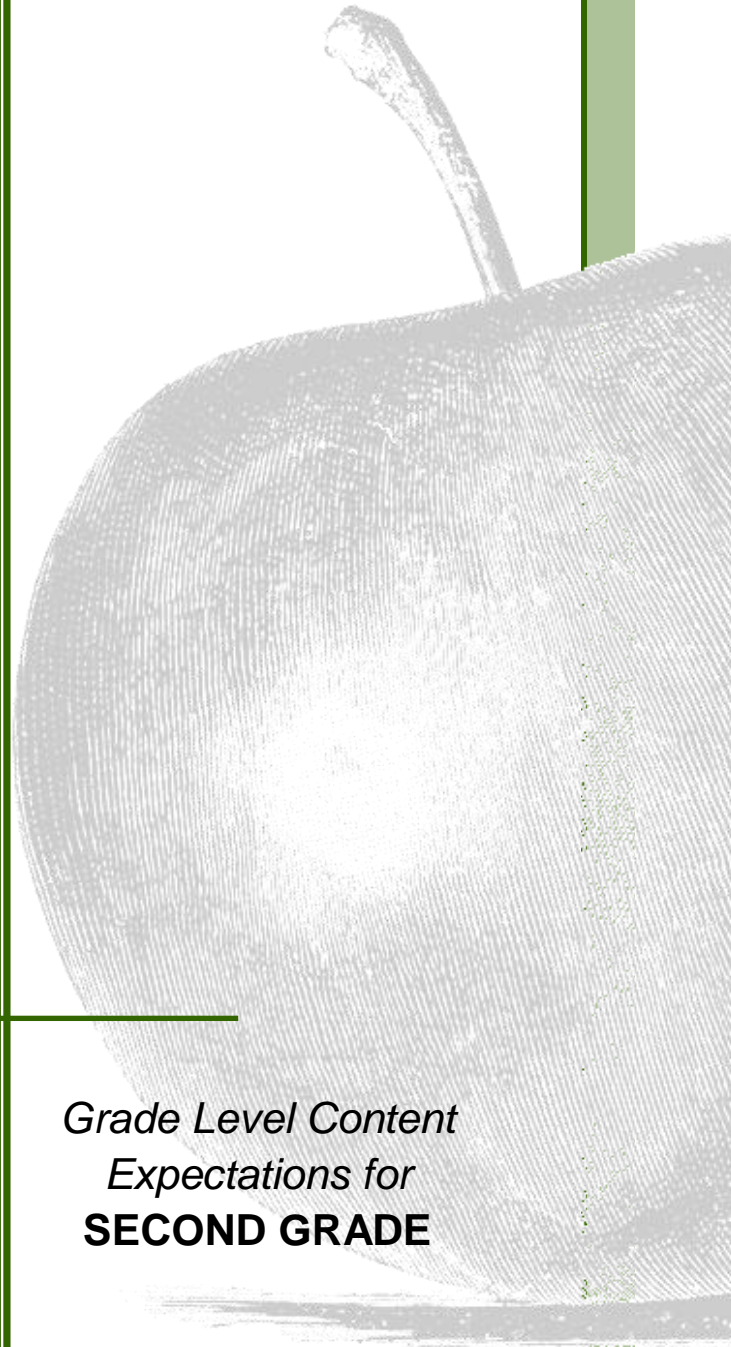
Inquiry Process

S.IP.02.11

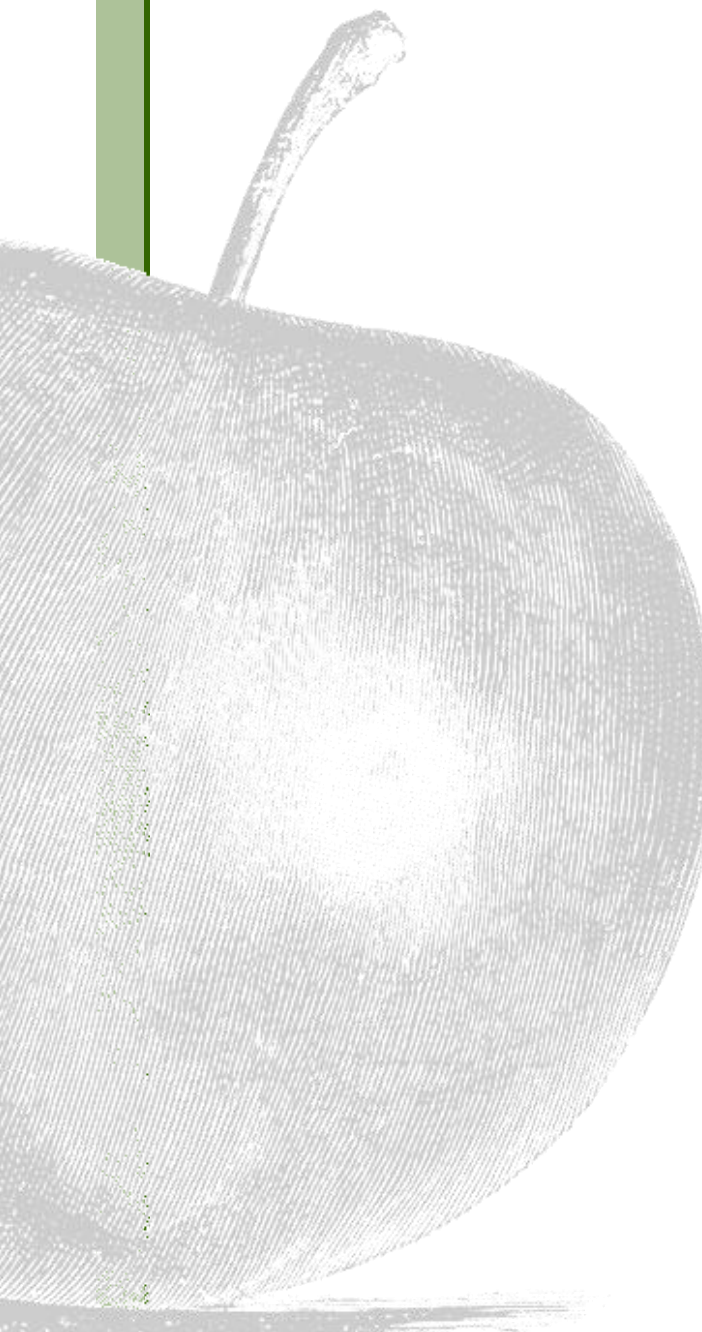
Make purposeful observation of the natural world using the appropriate senses.

S.IP.02.12

Generate questions based on observations. *Students will be able to ask informative questions based on experiences and observations.*



Grade Level Content Expectations for SECOND GRADE

**S.IP.02.13**

Plan and conduct simple investigations.

Students will participate in operating a cider press after considering what is involved in the process and afterward will sample the results.

PHYSICAL SCIENCE

Properties of Matter

P.PM.02.12

Describe objects and substances according to their properties (color, size, shape, texture, hardness, liquid or solid, sinking or floating).

P.PM.02.41

Recognize that some objects are composed of a single substance (water, sugar, salt) and others are composed of more than one substance (salt and pepper, mixed dry beans).

Students will be able to compare and contrast the shape, feel and sizes of the different animals on the farm. Students will be introduced to cider as a liquid made of apple juices which include water, sugar and other ingredients.

LIFE SCIENCE

Organization of Living Things

L.OL.02.22

Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.

Heredity

L.HE.02.13

Identify characteristics of plants (for example: leaf shape, flower type, color, size) that are passed on from parents to young.

Students will be introduced to apples as both the fruit of apple trees and as a unique example of hereditary characteristics.

EARTH SCIENCE

Fluid Earth

E.FE.02.12

Identify household uses of water (drinking, cleaning, food preparation).

Students will be able to identify the physical needs of domesticated farm animals, including fresh water.

SOCIAL STUDIES**GEOGRAPHY**

G4 Human Systems

2 - G4.0.1 Describe land use in the community (e.g., where people live, where services are provided, where products are made).

Students will recognize a farm as both a business where products are grown or made and possibly a home for families.

ECONOMICS

E1 Market Economy

2 - E1.0.4 Describe the natural, human, and capital resources needed for production of a good or service in a community.

2 - E1.0.5

Use examples to show that people cannot produce everything and depend on trade with others to meet their wants.

Students will be introduced to the animals, human effort and materials needed for production of foods and fibers. Students will recognize that very few people can produce all of these items themselves.



*Grade Level Content
Expectations for*
THIRD GRADE

SCIENCE

SCIENCE PROCESSES

Inquiry Process

S.IP.03.11

Make purposeful observation of the natural world using the appropriate senses.

S.IP.03.12

Generate questions based on observations.

Students will be able to ask informative questions based on experiences and observations.

S.IP.03.13

Plan and conduct simple and fair investigations.

Students will participate in operating a cider press after considering what is involved in the process and afterward will sample the results.

LIFE SCIENCE

Organization of Living Things

L.OL.03.31

Describe the function of the following plant parts: flower, stem, root, and leaf.

L.OL.03.32

Identify and compare structures in animals used for controlling body temperature, support, movement, food-getting, and protection (for example: fur, wings, teeth, scales).

Students will receive a brief introduction to flowers and fruiting. Students will observe annual physical changes in plants and domestic animals in preparation for winter weather.

Evolution

L.EV.03.12

Relate characteristics and functions of observable body parts to the ability of animals to live in their environment (sharp teeth, claws, color, body coverings).

Students will be able to identify observable, physical traits found in various domesticated animals.

SOCIAL STUDIES

HISTORY

H3 History of Michigan (Through Statehood)

3 - H3.0.1

Identify questions historians ask in examining the past in Michigan (e.g., What happened? When did it happen? Who was involved? How and why did it happen?)

3 – H3.0.7

Use a variety of primary and secondary sources to construct a historical narrative about daily life in the early settlements of Michigan (pre-statehood).
Students will be introduced to the role of cider production and consumption in history.

GEOGRAPHY

G4 Human Systems

3 - G4.0.1 Describe major kinds of economic activity in Michigan today, such as agriculture (e.g., corn, cherries, dairy), manufacturing (e.g., automobiles, wood products), services and tourism, research and development (e.g., Automation Alley, life sciences corridor, university communities), and explain the factors influencing the location of these economic activities.

Students will be introduced to agriculture and the keeping of livestock as a business.

ECONOMICS

E2 National Economy

3 – E2.0.1

Using a Michigan example, describe how specialization leads to increased interdependence (cherries grown in Michigan are sold in Florida; oranges grown in Florida are sold in Michigan).





*Grade Level Content
Expectations for*
FOURTH GRADE

Students will be introduced to a product (apples) grown in Michigan which may be exported to other states that cannot produce it.

SCIENCE

SCIENCE PROCESSES

Inquiry Process

S.IP.04.11

Make purposeful observation of the natural world using the appropriate senses.

S.IP.04.12

Generate questions based on observations.

Students will be able to ask informative questions based on experiences and observations.

S.IP.03.13

Plan and conduct simple and fair investigations.

Students will participate in operating a cider press after considering what is involved in the process and afterward will sample the results.

LIFE SCIENCE

Organization of Living Things

L.OL.04.16

Determine that animals require air, water, and a source of energy and building material for growth and repair.

Students will be able to identify the physical needs of domesticated, farm animals.

Evolution

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.

Students will be able to identify observable, physical traits found in various domesticated animals such as those which distinguish breeds from others of the same species. Students will also be introduced to the concept of cultivars: human-created varieties in the same species of apple trees.

Ecosystems

L.EC.04.11

Identify organisms as part of a food chain or food web. *Students will be able to explain the relationship between humans and domesticated animals in relation to the food chain.*

SOCIAL STUDIES

HISTORY

H3 History of Michigan (Beyond Statehood)

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?

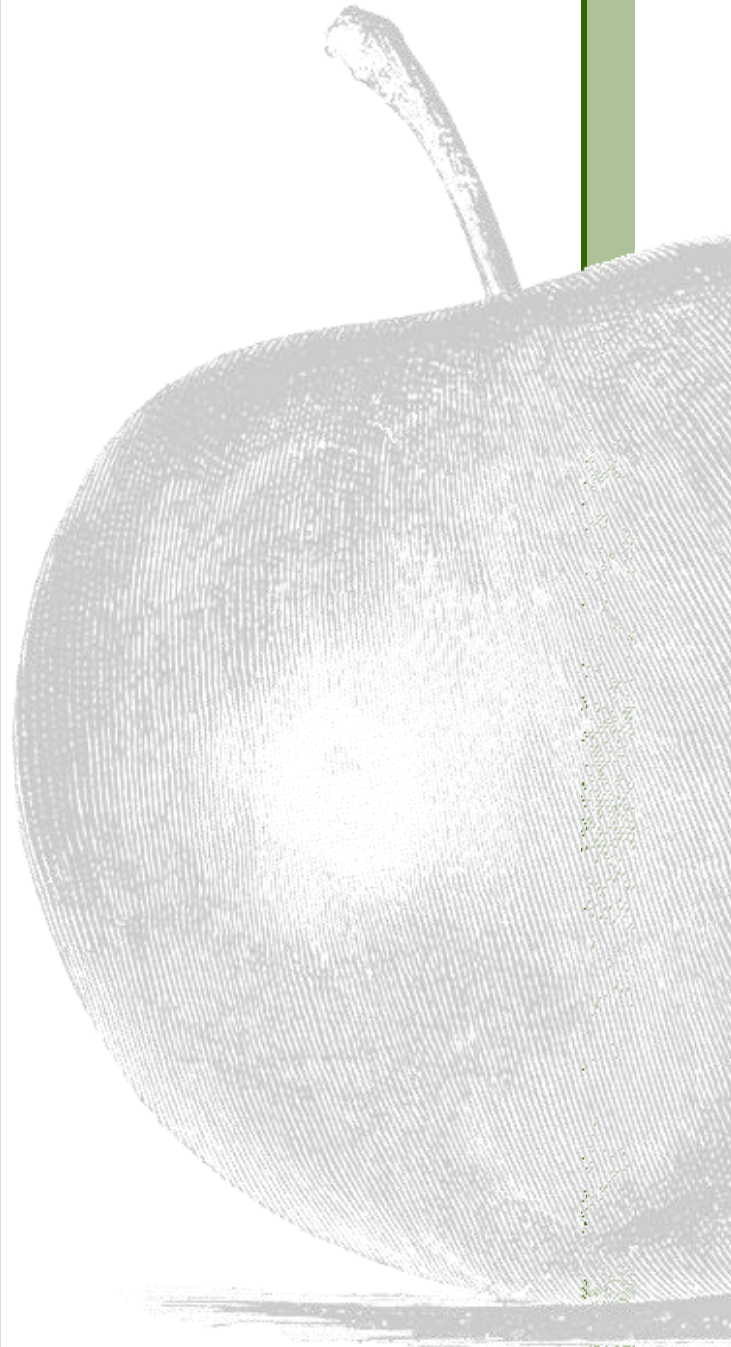
Students will be introduced to Michigan's agricultural past and the role of farms in history and today.

ECONOMICS

E1 Market Economy

4 – E1.0.1

Identify questions economists ask in examining the United States (e.g., What is produced? How is it





*Grade Level Content
Expectations for
FIFTH GRADE*

produced? How much is produced? Who gets what is produced? What role does the government play in the economy?).

Students will be introduced to agriculture and the keeping of livestock as a business.

SCIENCE

SCIENCE PROCESSES

Inquiry Process

S.IP.05.11

Generate scientific questions based on observations, investigations, and research.

Students will be able to ask informative questions based on experiences and observations.

LIFE SCIENCE

Organization of Living Things

L.OL.05.41

Identify the general purpose of selected animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive).

L.OL.05.42

Explain how animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive) work together to perform selected activities.

Students will be able to explain differences in digestive systems of various domesticated animals (ruminant vs. non-ruminant). Students will be able to identify specialized excretory processes such as milk production and sweating.

Heredity

L.HE.05.11

Explain that the traits of an individual are influenced by both the environment and the genetics of the individual.

L.HE.05.12

Distinguish between inherited and acquired traits.
Students will be introduced to the role of inherited traits in animal domestication and plant cultivation.

Evolution

L.EV.05.12

Describe the physical characteristics (traits) of organisms that help them survive in their environment.
Students will be introduced to the role of physical traits (hair coats, body size, specialized body parts, &c.) in a variety of animal lives and that aid in withstanding seasonal changes.

