all the same colors and can be very small or fairly large. Which ones grew best? Which ones were the best for eating?

4. Start several varieties of tomatoes from seed. Start 3-4 plants of each variety in a sunny window. Slicing, paste, cherry, early, yellow are all categories for tomatoes. (Each category has several choices including some that are resistant to certain diseases or pests.)

Resource:

See them Sprout Series www.4-hmall.org

Container Gardens

Demonstrate with the containers what they have learned about seed or plant selection, soil, fertilizing, design and originality. Plants can include all varieties (vegetable, flowers, house plants, carnivorous, etc.). Have to be exhibited in the garden at fair.

Rules:

1. All plant exhibits to be started from seed or small starter plant.
2. All plants should have one variety per specimen (example only 1 basil plant per container).
3. Each containers plant must have something in common.
4. Containers need to be a minimum size of 12-24 inches. Something different than a regular round pot get creative.
5. Each container should have a design plane, a layout of what plants are planted and where they are planted.

4-H Conservation Guidelines

The following are guidelines for providing learning experiences in the conservation project area.

THE GUIDELINES FOR ALL MEMBERS

- Understand what Natural Resources are; how to enjoy them, how and why they exist.
- Understand how Natural Resources inter-relate with each other, the environment and people
- Become involved in making the environment of our communities and state better for people through the responsible utilization, development and preservation of our Natural Resources (Water, Soil, Forests, Wildlife, Air and Energy)
- Explore career opportunities in areas related to Natural Resources and Environmental Conservation.

IDEAS FOR LEARNING EXPERIENCES IN THE VARIOUS AREAS

Basic Conservation

- Learn about the inter-relationship of one natural resource to another. Get acquainted with the ecosystem.
- Learn about ecology. Research wild animals and their habitat.
- Conduct outdoor activities with each of the five parts of the environment. Use of environmental activity guides such as Project WET, Project WILD, or Project Learning Tree

(PLT) for hands on activities is very helpful. Contact Kathy Pennington for a list of leaders that have been certified to assist you.

- Make a map of your community show how land is being used. Include residential, commercial, industrial, agricultural, natural areas, etc. Visit the Conservation District to see historical and current aerial photos showing land use and compare them with pre-settlement vegetation maps.
- Learn who makes land-use decisions. Visit some planning commission or zoning board meetings.
- Discover what factors determine the Environmental Quality (EQ).
- Survey your community and gauge what you believe to be its "EQ" rating. Report the results.
- Design a public awareness campaign on environmental factors which affect a particular segment of your community's population.
- Volunteer and help with an agency that is involved with changes which may affect your environment.
- Design a chart, which explains the relationship of air to the life of all things.
- Learn to identify pollutants in the air, where they come from and what they do to human bodies.
- Survey your community for sources of air pollution.
- Learn about laws designed to control air pollution.
- Learn how to test for dirty air.
- Conduct a demonstration or a source of air pollution, its effect and a possible control.

Soil Conservation

- Learn how soil is formed. Make a compost pit.
- Learn how and why soil sampling and testing are done.
- Learn what factors cause soil erosion.
- Design a display illustrating soil erosion, its effect on the environment and possible controls.
- Develop a map of your area to show slopes, soil types, land use and conservation needs.

Water Conservation

- Learn what is meant by the water cycle. (Project WET has great activities)
- Design a display to illustrate the cycle and its importance to the environment.
- Learn what can pollute your community's drinking water and how pollution is prevented.
- Learn how to test water for pollution. Take samples from your area.
- Demonstrate the water quality controls in effect in your area. Show how this protects human health.
- Learn how decisions about water are made in your community.
- Learn about the plants and animals that live in, on, or around water.
- Learn about the importance of wetlands in the ecosystem, what are some typical characteristics, how soil and land are interrelated, and how erosion affects the environment.
- Learn the impact of various elements on fish populations and how they are controlled, such as invasive fish species and the effects on Michigan waterways.

Forestry

- Learn to identify trees and what affects their growth.
- Make a leaf collection, mount and display it.
- Learn about products from the forest and how they are obtained.
- Learn about commercial tree production, tree plantations and forestry. What impact do these have on our lives and the economy?
- Plant and care for trees.
- Demonstrate tree planting for different purposes; ornamental, windbreak, timber, heating, etc.
- Look at how forests are managed, what resource are they managed for? Timber, wildlife, beauty, etc. and how to manage for the different resources.

Birds

- Learn about birds and their habitats by identifying and studying birds using the "Bird Study Sheet" or other bird study worksheet.
- Learn about nesting needs for different bird species and use plans to build a bird house. Determine where to place it and why.
- Learn about feeding needs for different species of birds and use plans to build a bird feeder. Know what kinds of birds would use the feeder and why.
- Learn about the habitats needed for different bird species and design a project to help restore or preserve that habitat. Such as a pheasant project, bluebird trail, etc.

Mammals, Wildlife, and Reptiles

- Learn to identify wild animals in your community using the "mammal, wildlife, and reptile study sheet" or other wildlife study sheets.
- Learn more about these animal's homes, habitats and their role in the environment by building a model or display of a specific species and its habitat and write a report on what you learned.
- Design a display illustrating wild animals in your area.
- Find out what kinds of animals used to live in your area, 25, 50, 100 years ago. Learn what happened to those that left.

Predator/Prey

- Learn about predator prey relationships and the importance of their relationships by studying specific animals. Develop a notebook.
- Reconstruct an animal skeleton and describe the habitat and ecology of the animal.
- Learn about a predator/prey relationship and build a diorama showing how the species interact and give a written explanation of the diorama.
- Learn about bats and their importance in the environment, where they live, etc. Build a bat house and determine where it should be placed and why.

Entomology

- Learn to identify insects and their species' order
- Understand the different uses of insects and their benefits
- Know the parts of an insect
- Understand the difference between an insect and a bug

Insect Collections

- Demonstrate proper insect collection preservation techniques including (Catching, Killing, preservation, mounting and labeling)
- Suggest using to entomology collection and field note guide and insect identification labels or similar data collection system.

General Exhibit Information:

Exhibits in conservation section must include an exhibit or display of items or articles concerning some phase of conservation that the member has studied. Content and complexity of the exhibit must reflect the age of the member and the amount of experience in the project.

Resources:

There's No New Water	www.4-hmall.org
Explore the Deep Woods	www.4-hmall,org
Teaming with Insects	www.4-hmall.org
Project Butterfly Wings	www.4-hmall.org

4-H WILDFLOWER GUIDELINES

The following are guidelines for providing learning experience in the Wildflower Project.

DO NOT PICK WILDFLOWERS.

GENERAL GUIDELINES FOR ALL MEMBERS:

- Learn to identify wildflowers and plants.
- Know the wildflowers, which are protected by the law and understand why they must be protected.
- Learn the type of environment necessary for various wild flowers and plants.
- Learn what plants are used by humans and animals.
- Identify endangered wild flowers in the area and publicize their characteristics.
- Design and distribute a map of good places to observe wildflowers in the area.
- Develop a way to preserve areas where wild plants grow.
- Use the Wildflower study sheets in this book.

GENERAL EXHIBIT INFORMATION:

An exhibit that does not meet the established criteria for a class will be dropped one grade.

Name _____

Year in Project _____

Club Name _____

BIRDS STUDY SHEET

General Information:

Bird you observed: _____ Date: _____

General coloration: _____ Season: _____

General size: _____

Distinctive characteristics: _____
Bill type: _____
Foot type: _____
Feeding habit: _____

Group to which this bird belongs: _____

Other birds of this group:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Underline birds you know or have seen.

Status: Type of resident: _____

Habitat: Describe habitat (tree, shrub, on or near ground, water, etc.)

_____

Nest and Eggs: Describe type and structure of nest, color of eggs, etc.

_____

_____

Distribution: see Distribution & Migration Sheet.

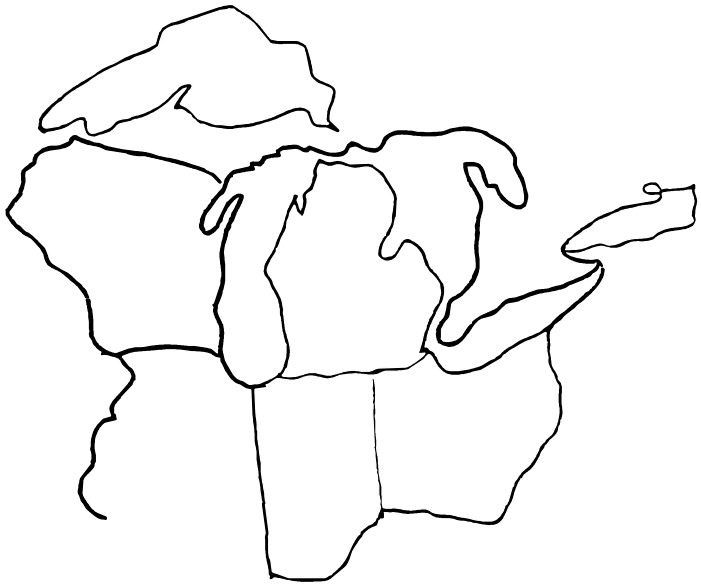
Comments: _____

_____

Residency Map
Bird
Distribution and Migration

Distribution Legend:

- o _____
- o _____
- o _____
- o _____
- o _____
- o _____



Migration Legend

- o _____
- o _____
- o _____
- o _____
- o _____
- o _____

- o _____
- o _____

Name _____
County _____
Club Name_____

MAMMALS, WILDLIFE, REPTILES
STUDY SHEET

General Information:

Animal you observed: _____ Date: _____

General coloration: _____ Season: _____

General size: _____

Distinctive characteristics: _____
Eyes (on side of head, forward, etc.) _____
Movement (hop, walk, slither) _____
Feeding habit: _____

Group to which this Animal belongs: _____

Other animals of this group:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Underline animals you know or have seen.

Status: Type of resident: _____
Habitat: Describe habitat (tree, shrub, on or near ground, water, etc.)
_____

Rearing of young: Describe type and structure of nest, rearing habits, etc.
_____
_____

Distribution: see back page.

Comments: _____
_____

Residency Map
Mammals, Wildlife & Reptiles
Distribution

Distribution Legend:

o _____

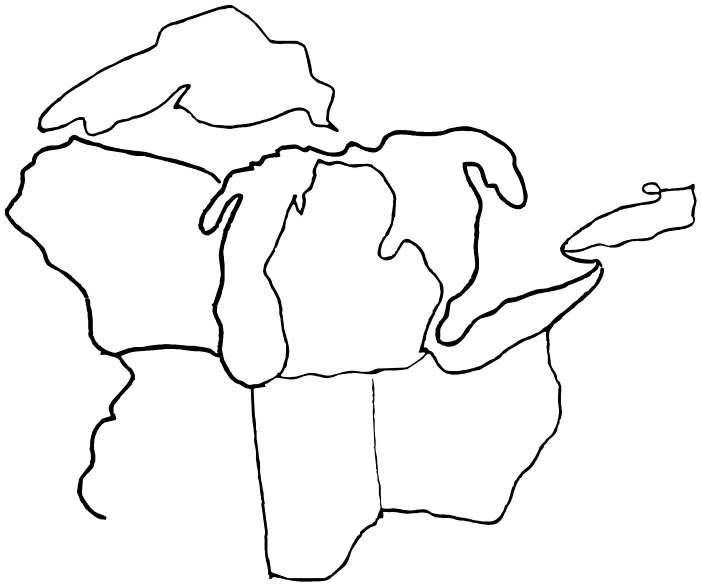
o _____

o _____

o _____

o _____

o _____



Member's Name _____
4-H Club _____

WILDFLOWER STUDY SHEET

DO NOT PICK WILDFLOWERS, PICTURES ONLY

Place these in a loose leaf notebook or scrapbook. Add a final sheet with your 4-H club members report and wildflower project story. This notebook is part of your exhibit.

1. Common Name _____
2. Date Seen _____
3. Color _____
4. Habitat: sand, clay, loam, muck; wet, moist or dry; associated plants _____
5. Place: field, woods, swamp, etc. _____
6. Locality (township, county, etc.) _____
7. Should it be picked freely, moderately or not at all? _____
8. What can the plant be used for? _____
9. Is there a legend or story about it? Give briefly. _____

10. Mount this photograph or draw a picture of shape of flower and leaf in the space below.

ENTOMOLOGY COLLECTION AND FIELD NOTES

Name: _____ Project Leader _____

Address: _____

_____

Age: _____ Years in Project (including this year) _____

Use this section to record your field observations and the results of your collecting expeditions. This section will accurately preserve this data for specimen labeling at a more convenient time. You can also use this section to record your special collections of immature insects, economic insects, and non-insect arthropods.

Sample Number	Date	Location	Habitat	Weather Conditions	Collecting Device	Collector
1	V-19-86	Haslett, MI	backyard	Night, 65F	Blacklight	Dunn, Deso
2A	V-24-86	Lansing,MI	woodlot	Sunny&hot	(none)	Dunn
2B	V-22/24-86	(same as above)			Pitfalls	Dunn