Kalamazoo County 4-H
Natural Resources Project Guidelines

Project Superintendents: N/A

Project Social Media: N/A

Project Objectives & Life Skills*

- Youth can gain knowledge and foster environmental stewardship through hands-on experiences.
- Promote appreciation and enjoyment of the outdoors and natural resources.
- Encourage responsible use of natural resources and sustainable practices.
- Head
  - Keeping records
  - Wise use of resources
  - Service learning
  - Learning to learn
- Heart
  - Communication
  - Concern for others
  - Sharing
  - Nurturing relationships
- Hands
  - Leadership
  - Responsible citizenship
  - Marketable skills
  - Teamwork
- Health
  - Healthy lifestyle choices
  - Personal safety
  - Stress management
  - Character

**note these life skills are just some examples of what 4-H members will learn in this project*

Additional Resources:

Shop 4-H Recycling Curriculum
Recycling Activity book 3-6th grade–Indiana
Recycling Activity Book 7-12 grade–Indiana
Shop 4-H Fish Curriculum
Shop 4-H Geology Curriculum
Geology Display Box Instructions–Kansas
Ichthyology Nature Study Podcast Episode
fish - Students | Britannica Kids | Homework Help
4-H Aquatic Science–Indiana
4-H Marine Science Project–Florida
Marine Biology for Kids: OLogy | AMNH
STEM Career Inspiration for Kids: Marine Biologist
A Fun Guide to Teaching Kids About Marine Biology
Ocean Services
Reptile Pictures & Facts
Reptiles | National Wildlife Federation
ReptiFiles
4-H Outdoor Experience Project Snapshot
Survival Skills–Wisconsin
Surviving in the Great Outdoors–Ohio
Outdoor Living Skills–Alberta
Leave No Trace And Wilderness Skills–MSU
Shop 4-H Outdoors Curriculum
31 Easy Camping Meals
Orienteering--Wisconsin
Orienteering Pre-Post Trip Activities–Georgia
How to use a compass - MSU Extension
Orienteering–Minnesota

Natural Resources

Section A–Recycling

- Beginner (1st and 2nd year)
  - Must be a notebook, poster, 3-D exhibit or other display sharing the learned information about recycling with others.
  - Project must be more challenging from the previous year. Project should be age and ability appropriate.
- Intermediate (3rd and 4th year)
  - Must be a notebook, poster, 3-D exhibit or other display sharing the learned information about recycling with others.
  - Project must be more challenging from the previous year. Project should be age and ability appropriate.
- Advanced (5th year and beyond)
  - Must be a notebook, poster, 3-D exhibit or other display sharing the learned information about recycling with others.
  - Project must be more challenging from the previous year. Project should be age and ability appropriate.

Section B–Fish and Reptiles

- Study of fish
  - Project must be a notebook, poster, 3-D exhibit or other display sharing the information that you learned about the study of fish with others.
  - Project must be different from previous years, if repeating this class.
  - Project must be more challenging from the previous year.
  - Project should be age and ability appropriate.
- Marine biology
  - Project must be a notebook, poster, 3-D exhibit or other display sharing the information that you learned about marine biology with others.
  - Project must be different from previous years, if repeating this class.
  - Project must be more challenging from the previous year.
  - Project should be age and ability appropriate.
- Aquatic science
  - Project must be a notebook, poster, 3-D exhibit or other display sharing the information that you learned about aquatic science with others.
  - Project must be different from previous years, if repeating this class.
  - Project must be more challenging from the previous year.
  - Project should be age and ability appropriate.
- Reptiles
  - Project must be a notebook, poster, 3-D exhibit or other display sharing the information that you learned about reptiles with others.
  - **Live animal exhibits should follow the guidelines for Pocket Pets and enter classes in Department 14, Section N**
  - Project must be different from previous years, if repeating this class.
  - Project must be more challenging from the previous year.
  - Project should be age and ability appropriate.

Section C–Geology (Rocks and Minerals) and Geography

- Geology
    - Beginner geologist (1 and 2nd year)
        - Should exhibit in a box approximately 12" X 15". Lid must be used and must be clear so as to see your collection.
        - Exhibits should have 10-15 Michigan specimens with ID tags.
        - Project should have a minimum of 5 more specimens than the previous year.
    - Junior geologists (3rd and 4th year)
        - Projects should be exhibited in rock cases approximately 24" X 30". Lid must be used and must be clear to see your collection.
        - Must have at least 20 specimens with ID tags. Collection must include 5 igneous, 5 metamorphic, 5 sedimentary, and 5 fossils.
    - Senior Geologist (5th year and beyond)
        - Projects should be exhibited in rock cases approximately 24" X 30". Lid must be used and must be clear to see your collection.
        - Must have at least 25 specimens with ID tags. The collection must include 5 igneous, 5 metamorphic, 5 sedimentary, 5 fossils and 5 minerals.
        - Project should have a minimum of 5 more specimens than the previous year.
    - Review the Geology Display Box Instructions as it explains how to make your own box, label/tag your specimens and more. A display box can be made from the instructions above or you can purchase one. Insect boxes are also a good option for displaying your specimens if you buy a box.
    - Specimen tags must be attached to each specimen in your case.
        - Simple specimen tags can be found on Page 5 of this document.
        - Specimen tags should be filled out to the best of the youth's ability and should only display positively identified specimens.
        - In the top right corner of the specimen tags there is a line for the youth to write R, M, or F. R=rock, M=mineral, F=Fossil.
        - The date should be the date that you collected the specimen.
        - Specimen name is where the name of the specimen goes.
        - Location should be the county and state that it was found. For example, Kalamazoo County, MI would be the location of a specimen collected in any part of Kalamazoo County. If found abroad, region and country should be used for location.
    - Tags should be printed on thicker paper such as cardstock or if printed on printer paper backed with something thicker such as a notecard or cardboard.
    - Tags should be typed but will not be docked at judging if they are handwritten.
    - The number line on the specimen tags is for numbering sequentially of when you found them. Your first specimen found would be 1, your second would be 2, your third would be 3, etc. The next year you would start numbering your specimens where you left off at.
    - Specimens should be laid out in a neat grid for easy viewing. In the Junior and Senior geologists' collections there should be a tag for Igneous, Metamorphic, Sedimentary and Fossil and specimens should be grouped correctly under each of these tags.
- Geology Educational Exhibit
    - Any poster, notebook, 3-D exhibit or other display that shares your knowledge of geology or how to identify specimens.
    - Project should be age and ability appropriate for the youth in regard to geology.
- Geography Educational Exhibit
    - Any poster, notebook, 3-D exhibit or other display that shares your knowledge of geography or land formation.
    - Project should be age and ability appropriate for the youth in regard to the topic chosen.

Section D–Challenge (4-H Wilderness Survival Experience)

- Educational Exhibit
    - Exhibit may be a poster, notebook, 3-D exhibit or other display that displays and shares your knowledge and skills about wilderness survival and your experiences.
- Outdoor meals
    - Project can be a collection of outdoor meals you have made (can include pictures) or bring in an outdoor meal you cooked with a recipe card (basic recipe card found on page 6 of this document). Outdoor meals that are cooked will be tasted by the judges. Judges will take a portion of the cooked meal and place it in a clear, closed, exhibitor-provided container. The rest of the cooked meal will be sent home with the 4-H'er.
- Make a miniature model of reflector oven
    - Exhibit should be a model of a reflector oven along with directions on how to use it.
- Orienteering
    - Exhibit may be a poster, notebook, 3-D exhibit or other display that displays and shares your knowledge and skills about orienteering.

Section E–Science Fair Exhibit

- Any science exhibit that does not fit in the existing classes in this department (79) or department 69 Youth Sciences.
- Exhibits may be a poster, notebook, 3-D exhibit or other display that displays and shares a science concept that does not fit in with the other existing classes.

Geology Rock/Mineral/Fossil Specimen Tags

____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________
____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________	____ Specimen Number:__________________ Date:_____________________ Specimen Name: ___________________________ Location: ___________________________
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Recipe Card

Name____________________
Project____________________
Club____________________
Age by Jan 1 of Current Year____________ Project Year____________
Recipe____________________
Ingredients: ____________________

Directions: ____________________

Recipe Card

Name____________________
Project____________________
Club____________________
Age by Jan 1 of Current Year____________ Project Year____________
Recipe____________________
Ingredients: ____________________

Directions: ____________________