

# Juvenile Justice Center

State Educational and  
Correctional Institutions Perkins IV

***ENGAGE***



# Juvenile Justice Center

- Sarpy County opened the doors of its 24,645 square foot JJC in March 2003.
- It is a 36-bed, staff-secured housing center for juveniles.
- This facility offers a safe and structured environment for juvenile law offenders who are awaiting court ordered placement and/or court hearing.



# Juvenile Justice Center Director-Dick Shea

- Juveniles may be screened for substance abuse, suicide risk, physical and mental health and trauma. Juveniles may be placed on electronic monitoring (**CARE**) as a means of supervision to track the juveniles at home, school or work. Juveniles are continually assessed and their progress monitored while in the program.

# Juvenile Justice Center

- The alternative school provides an educational program for juveniles-grades 7-12 who have been expelled from school and currently in the Juvenile Court system, and who have been ordered or re-assigned to attend the **Sarpy County Education Program-SCEP**.

# Outdoor Classroom



- Teachers, students, and JJC staff work collaboratively to design and implement the Outdoor Classroom that will include a pond, fish, perennial and herb garden, and walkway.

# Outdoor Classroom-Goals

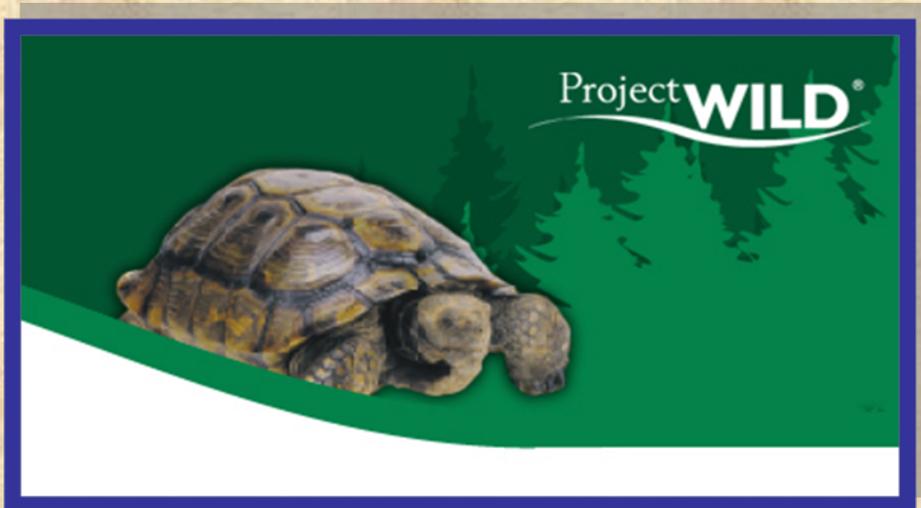
- Provide hands-on, performance-based activities in core areas.
- Study career pathways and post-secondary institutions.
- Emphasize teacher-generated activities addressing academic and technical literacy.
- Utilize activities created by Project *WILD*.



# Project *Wild-* **NEBRASKA**

- Science Content Standards
- Social Studies Content Standards
- Reading Content Standards
- Math Content Standards

Grades 7-12 Activities



*Eight Teachers from the JJC developed Curriculum Guidelines for Science, Mathematics, Reading, and Culinary Arts.*



# Donations



- Lowe's Grant- \$3,000.00
- Sun Valley Stone-Soil and Rock
- Outdoor Junction-Pump
- Master Gardeners-Plants
- Paradigm Gardens-Soil
- City of Papillion-Removed Dirt and Provided Sand

Several JJC staff donated Perennials....



## Nebraska Parks and Recreation Project *WILD*

Correlations of Nebraska State Education Content Standards with Project  
WILD 7-12 Activities

Correlation of Nebraska State Education Content Standards with Project  
Wild Aquatic 7-12 Activities

# Outdoor Classroom

And the work begins.....

We Received A Little Boost From Bill's Kubota...



Connie Pretended To Know What She Was Doing...



## Students Volunteered Their Time For Community Service



The Hole Was Dug, Pond Filled And The Job Of Moving Boulders Begins...



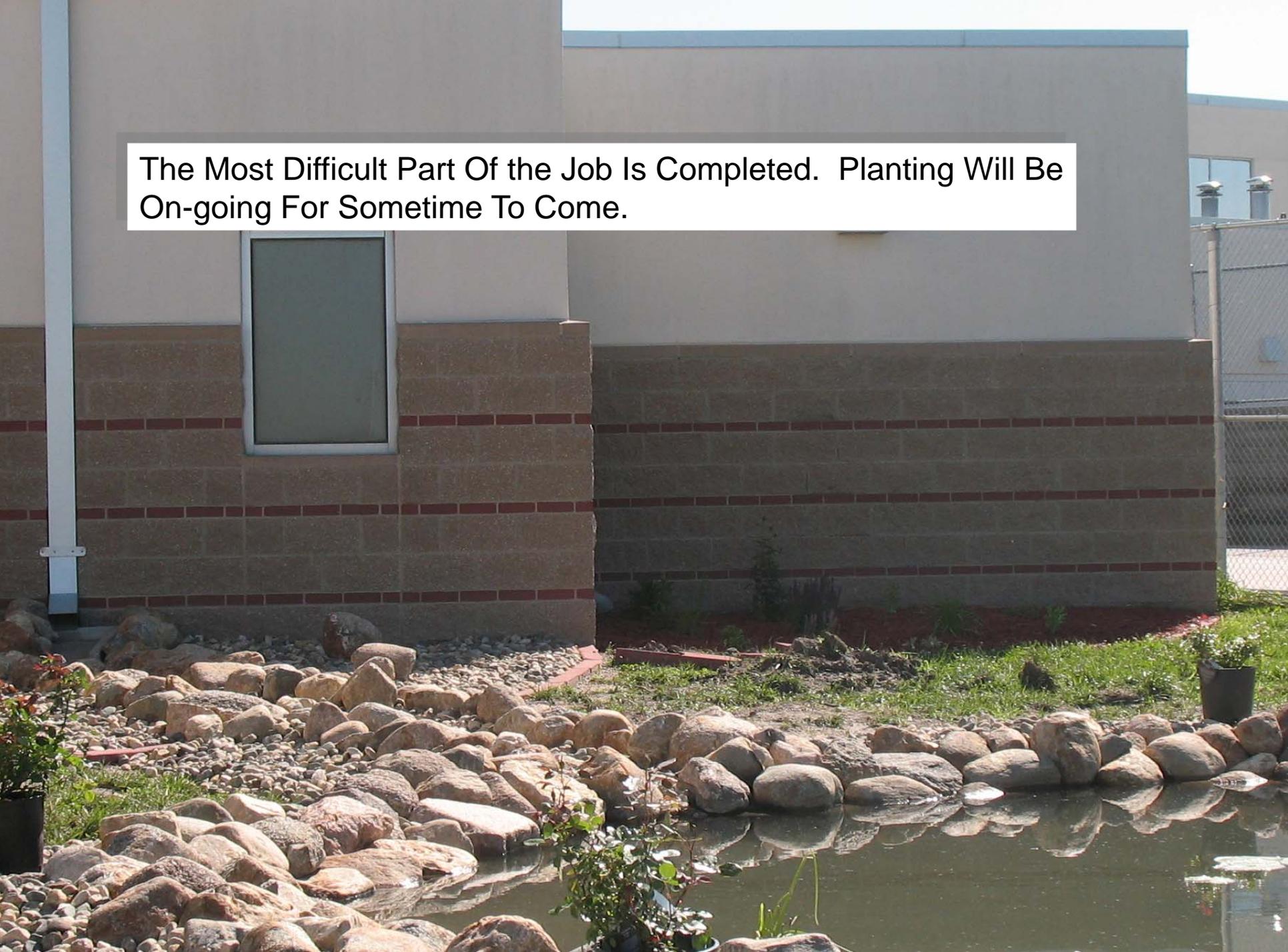
The Pond Is Finally Taking Shape...Fish Will Be Introduced To Their New Home Next Week.



Student in Awe of Our Accomplishments



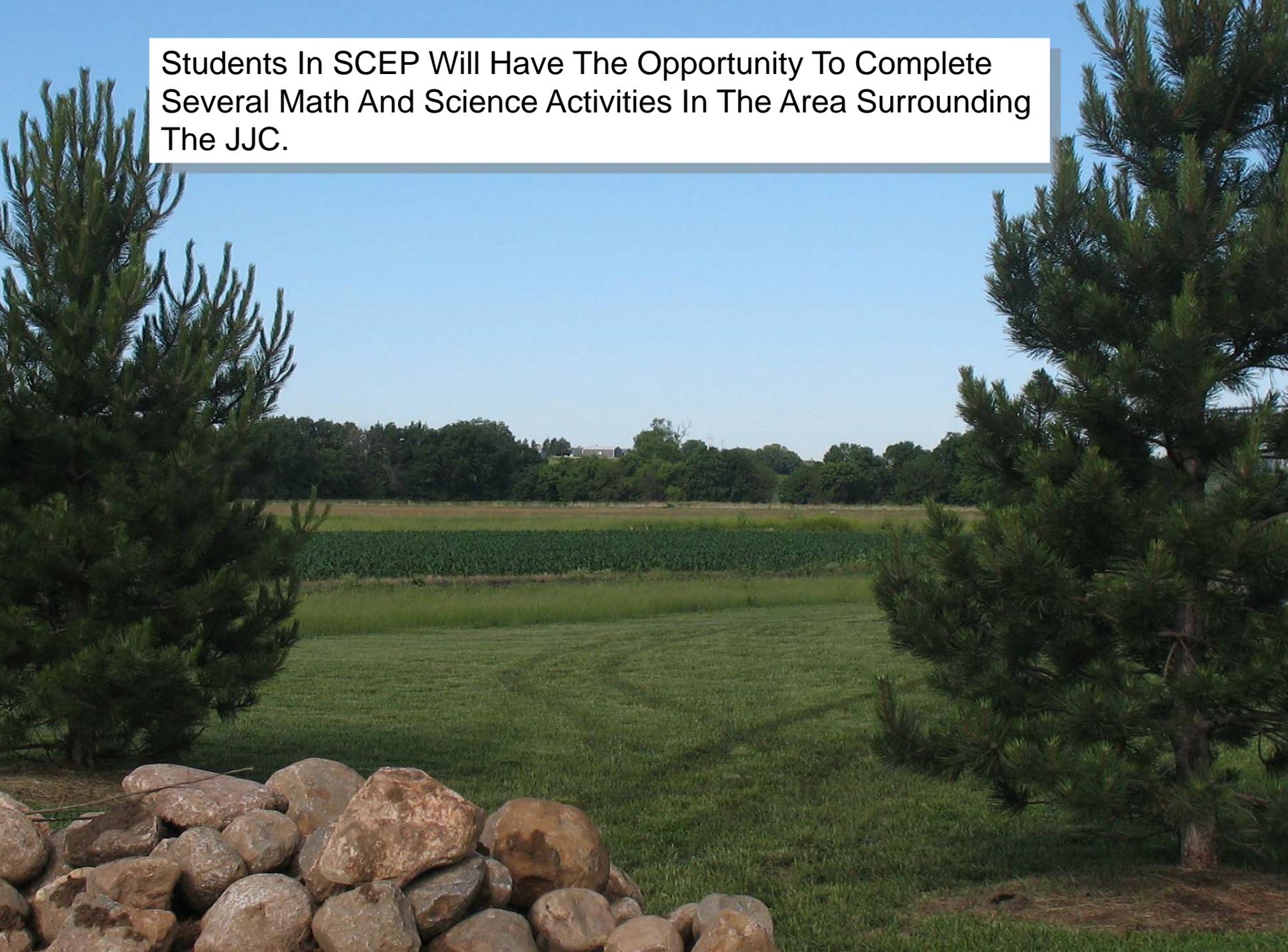
The Most Difficult Part Of the Job Is Completed. Planting Will Be On-going For Sometime To Come.



A photograph showing a grassy area in the foreground with a chain-link fence. Behind the fence are several young trees. In the background, there is a white building with a blue door, and further back, residential houses with brown roofs. A white text box is overlaid on the image, containing text about a proposed greenhouse and windmill project.

With The Approval of The Sarpy Board; This Site May Have A Greenhouse And Turbine Windmill. The Windmill Will Generate Electricity For The Greenhouse And Solar Pump for the Pond.

Students In SCEP Will Have The Opportunity To Complete Several Math And Science Activities In The Area Surrounding The JJC.



One of the Perennial Gardens



# The Start Of The Herb Garden



# Juvenile Justice Center

9701 Portal Road  
Papillion, NE 68046

For More Information about Project **ENGAGE**,  
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# PROJECT ENGAGE STANDARDS

## SARPY COUNTY EDUCATION PROGRAM -ENGAGE

### Project WILD and Activity Guides to Nebraska's State Education Standards

Acknowledgements: Adapted from *NE Project WILD* from Nebraska Game and Parks Commission

- **Adaptation Artistry**

- **Objective's):** Students will (1) identify and describe the advantages of bird adaptations, and (2) evaluate the importance of adaptations to birds. **Method/Overview:** Students design and create imaginary birds and then write reports including descriptions of the birds' adaptations. **Subject Area's):** Science, Environmental Education, Expressive Arts, Language Arts. **Grade's):** 7-12  
*Log Books, Alien Planet DVD, Art Supplies*  
**Nebraska State Standards:** Math: None Science 8.1.2; 8.1.4; 8.4.3; 8.4.4; 8.4.5  
Reading/Writing: None Social Studies: None

- **Ants on a Twig**

- **Objective's):** Students will (1) identify similarities and differences in basic needs of ants and humans, and (2) generalize that humans and wildlife have similar basic needs. **Method/Overview:** Students observe and demonstrate ant behavior. **Subject Area's):** Science, Expressive Arts, Environmental Education **Grade's):** 7-12  
*Log Books, Bill Nye Insects DVDs, Art Supplies*
- **Nebraska State Standards:** Math: None Science: 8.4.3  
Reading/Writing: None Social Studies: None

- **Back from the Brink**

- **Objective's):** Students will (1) explain the reasons for the decline of certain wildlife species and describe methods used in species recovery, (2) describe the effects of the decline and recovery of wildlife on people and the environment, (3) analyze issues surrounding the decline and recovery of wildlife species and examine strategies to resolve those issues, and (4) describe the importance of an environmentally literate citizen base to the success of the recovery project. **Method/Overview:** Students are given background information on the recovery of wildlife species, and they are asked to analyze the issues and make recommendations for their resolution. **Subject Area's):** Science, Language Arts, Social Studies, Environmental Education **Grade's):** 7-12 *Internet, Plato, NovaNet, Adapting to the World DVD, Blue Planet DVD*
- **Nebraska State Standards:** Math: None Science: 12.4.4  
Reading/Writing: 12.1.6; Social Studies: 12.1.11; 12.1.12; 12.1.13; 12.2.11

# PROJECT ENGAGE STANDARDS

- **Bird Song Survey**
- **Objective's):** Students will identify and describe the importance of bird counting as one means of inventorying wildlife populations. **Method/Overview:** Students investigate an area and use bird-counting techniques. **Subject Area's):** Environmental Education, Science **Grade's):** 7-12 *Nebraska Wildlife Information Books on Birds, Log Books*
- **Nebraska State Standards:** Math: None Science: None Reading/Writing: None Social Studies: None
- **Birds of Prey**
- **Objective's):** Students will (1) interpret a graph of animal populations, noting changes over time; (2) hypothesize the relationship among temperature, ground squirrel behavior, and falcon populations; and (3) describe the importance of interdependence to the functioning of an ecosystem. **Method/Overview:** Students interpret data on wildlife populations; generate hypotheses related to the data, and research potential explanations. **Subject Area's):** Math, Science, Environmental Education **Grade's):** 7-12 *Internet, Nebraska Wildlife Book, Plato, NovaNet, Log Books*
- **Nebraska State Standards:** Math:12.6.4 Science: 12.1.1; 12.4.4; 12.8.2 Reading/Writing: None Social Studies: None
- **Bottleneck Genes**
- **Objective's):** Students will (1) describe biodiversity as it relates to natural systems, species, or individuals; (2) articulate that genetic diversity is essential to the health of a species because it facilitates adaptation to change and provides sources for new genetic material; (3) explain how natural selection favors individuals with traits adapted to their environment; and (4) explain that for a wildlife population to sustain itself, there must be enough habitat to support a healthy-sized population that will carry a healthy-sized gene diversity. **Method/Overview:** Students will simulate the gene-pool analysis of a population of black-footed ferrets using colored beads. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Material Project WILD, Understanding Biodiversity DVD, Log Books*
- **Nebraska State Standards:** Math: None Science: 12.4.2; 12.4.3; 12.4.4 Reading/Writing: None Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Changing the Land**
- **Objective's):** Students will (1) define fragmentation, (2) simulate and explain how fragmentation of biological communities can affect wildlife diversity and populations, (3) compare historical aerial photographs with current photographs and determine what factors influenced land-use decisions, (4) evaluate the impacts of different land uses, and (5) consider future land use changes to accommodate growth in a community. **Method/Overview:** Students use worksheet maps to study fragmentation and use aerial photographs to examine changes in land use and how those changes affect ecosystems. **Subject Area's):** Social Studies, Science, Environmental Education **Grade's):** 7-12 *Internet, Plato, NovaNet, Dynamic Earth VQ Part 1, Planet Earth DVDs*
- **Nebraska State Standards:** Math: None Science: 8.7.2; 8.7.3 Reading/Writing: None  
Social Studies: None
- **Deer Crossing**
- **Objective's):** Students will (1) identify various factors involved in a wildlife management issue, and (2) evaluate alternatives in a complex issue involving wildlife. **Method/Overview:** Students are given background information and asked to make recommendations. **Subject Area's):** Social Studies, Environmental Education **Grade's):** 7-12 *Nebraska Wildlife Information, Log Books*
- **Nebraska State Standards:** Math: None Science: None  
Reading/Writing: None Social Studies: 12.3.7; 12.3.9; 12.4.6
- **Drawing on Nature**
- **Objective's):** Students will generalize that wildlife and other animals are an important inspiration for art and science. **Method/Overview:** Students use techniques of observation and visualization to record wildlife by drawing. **Subject Area's):** Environmental Education, Language Arts, Expressive Arts **Grade's):** 7-12 *Art Materials, Digital Camera, Area Surrounding the JJC*
- **Nebraska State Standards:** Math: None Science: None  
Reading/Writing: None Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Dropping in on Deer**
- **Objective's):** Students will (1) describe how habitat surveys provide important baseline information to guide management decisions; (2) apply field methodologies reflecting wildlife management practices developed through an understanding of species biology and ecosystem structure; and (3) explain the importance of scientific knowledge and technical skills in the conservation, limitation, preservation, and enhancement of wildlife and its habitat. **Method/Overview:** Students estimate population density of deer in a given area by counting deer pellet groups. **Subject Area's):** Environmental Education, Science, Math **Grade (s):** 9-12 *Area surrounding the JJC, Log Books*
- **Nebraska State Standards:** Math:12.2.3, 12.4.1, 12.5.1 Science:12.2.1  
Reading/Writing: None Social Studies: None
- **Eco-Enrichers**
- **Objective's):** Students will (1) evaluate the contributions of plant and animal matter to soil, and (2) recognize that wildlife in many forms contributes to the diversity and balance of ecological systems. **Method/Overview:** Students experiment with soil and earthworms. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Log Books, Area surrounding the JJC, Outdoor Classroom, Ecology VQ*
- **Nebraska State Standards:** Math: None Science: 8.2.1, 8.4.4, 8.8.2, 8.5.1  
Reading/Writing: None Social Studies: None
- **For Your Eyes Only**
- **Objective's):** Students will (1) observe the environment in which they live, (2) express environmental attitudes, (3) analyze viewpoints on the environment, and (4) listen to and respect the right of others to maintain different environmental attitudes. **Method/Overview:** Students will observe, write, discuss, and make judgments about attitudes concerning the environments in which they live. **Subject Area's):** Language Arts, Environmental Education **Grade's):** 7-12 *Digital Camera, Art Materials, Outdoor Classroom, Dynamic Earth VQ-2***Nebraska State Standards:** Math: None Science: None  
Reading/Writing: 8.3.1; 8.3.2; 8.4.1 Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Forest in a Jar**
- **Objective's):** Students will observe, describe, and investigate the concept of succession .**Method/Overview:** Students conduct a simple investigation using soil, water, seeds, a plant, and a jar; present their observations and findings; and design an experiment to further investigate the concept of succession. **Subject Area's):** Science, Environmental Education, Language Arts **Grade's):** 7-12 *Outdoor Classroom, Know It All: Earth Science DVD and Guide*
- **Nebraska State Standards:** Math: None Science: 12.1.5  
Reading/Writing: 12.2.1; 12.2.4; 12.3.1 Social Studies: None
- Habitrekking
- **Objective's):** Students will (1) summarize evidence about the nature of habitats, and (2) generalize from evidence that people and wildlife has similar basic needs, share environments, and are subject to the same or similar environmental issues. **Method/Overview:** Students go outside to conduct an investigation requiring observation, interpretation, and data-gathering skill; then they prepare and present their findings .**Subject Area's):** Science, Language Arts, Expressive Arts, Environmental Education **Grade's):** 7-12 *Art Materials, Digital Camera, Log Books, Outdoor Classroom*
- **Nebraska State Standards:** Math: None Science: 4.1.2; 4.4.1  
Reading/Writing: 4.2.1; 4.2.4; 4.3.2; 4.4.1 Social Studies: None
- Here Today, Gone Tomorrow
- **Objective's):** Students will (1) identify and describe causes of extinction within animal species; (2) define "threatened," "rare," and "endangered" as applied to wildlife; and (3) identify any local threatened or endangered animals .**Method/Overview:** Students become familiar with the various designations of animals such as "threatened," "rare," and "endangered;" conduct research; and make a master list of threatened and endangered animals locally or nationally, including factors that affect the animals' condition. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Plato, Adapting to the World DVD, Myth Busters DVD*
- **Nebraska State Standards:** Math: None Science: 8.4.5; 8.4.4  
Reading/Writing: None Social Studies: 8.3.3

# PROJECT ENGAGE STANDARDS

- **Interview a Spider**
- **Objective's):** Students will generalize that wildlife ranges in size and occurs in a variety of forms, colors, and adaptations. **Method/Overview:** Writing and research materials .**Subject Area's):** Language Arts, Science, Environmental Education **Grade's):** 7-12 *Art Material, Digital Camera, Log Books, Outdoor Classroom*  
**Nebraska State Standards:** Math: None Science: None  
Reading/Writing: 8.1.2; 8.2.2; 8.2.3; 8.2.4 Social Studies: None
- **Let's Talk Turkey**
- **Objective's):** Students will (1) explain the origin and development of a domesticated animal; (2) evaluate the role and influence of the turkey on different cultures over time; (3) describe how human development affected turkey populations; and (4) identify the methods, laws, and management tools used to conserve turkeys in the wild.  
**Method/Overview:** Students create a time line chronicling the historical use of wild turkey by societies through time and its ultimate decline and restoration in the wild. **Subject Area's):** Science, Environmental Education, Social Studies .**Grade's):** 7-12 *Nebraska Game and Parks Information , Log Books*
- **Nebraska State Standards:** Math: None Science: 8.7.2; 8.4.5 Reading/Writing: None  
Social Studies: 8.1.1; 8.1.9
- **Lobster in Your Lunch Box**
- **Objective's):** Students will (1) identify the foods that are derived from plants and those that are derived from animals, and (2) articulate that all food sources are derived originally from wild plants and animals.  
**Method/Overview:** Students plan and calculate the costs of a family's meals for one day; create a classroom chart; and analyze, discuss, and summarize their findings. **Subject Area's):** Environmental Education, Science, Math **Grade's):** 7-12 *Plato NovaNet, Science Texts, Log Books*
- **Nebraska State Standards:** Math: 8.2.1; 8.2.2 Science: None  
Reading/Writing: None Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Microtrek Treasure Hunt**

- **Objective's):** Students will (1) discover that humans and wildlife share environments; (2) recognize that humans do not have exclusive use of environments; and (3) discover that wildlife can be all around, even if it is not actually seen or heard. **Method/Overview:** Students go outside on a "treasure hunt" for wildlife. **Subject Area's):** Science, Language Arts, Environmental Education **Grade's):** 7-12 *Log Books, Area Surrounding the JJ, Outdoor Classroom*
- **Nebraska State Standards:** Math: None Science: 8.7.2  
Reading/Writing: 8.2.1; 8.3.1 Social Studies: None

- **Shrinking Habitat**

- **Objective's):** Students will (1) describe some effects of human development of land areas on plants and animals living or previously living in the area, (2) evaluate the importance of suitable habitat for wildlife, and (3) recognize that loss of habitat is generally considered to be the most critical problem facing wildlife today. **Method/Overview:** Students simulate a process of land development. **Subject Area's):** Social Studies, Science, Environmental Education, Expressive Arts **Grade's):** 7-12 *Log Books, Planet Earth DVDs. Area Surrounding the JJC*
- **Nebraska State Standards:** Math: None Science: 8.1.1, 8.4.3, 8.4.4, 8.7.3, 8.7.2  
Reading/Writing: None Social Studies: None

- **Sustainability: Then, Now, Later**

- **Objective's):** Students will (1) define the different components of a sustainable community, (2) relate the effects of individual actions on the long-term health of the environment, and (3) explain how communities can become sustainable. **Method/Overview:** Students analyze two articles on sustainability in which they investigate community life in the present and 100 years ago and then predict community life 100 years in the future. **Subject Area's):** Language Arts, Expressive Arts, Science, Social Studies, Environmental Education **Grade's):** 7-12 *Internet, Plato, Alien Planet DVD, Planet Earth DVD*
- **Nebraska State Standards:** Math: None Social Studies: 12.2.11; 12.1.12; 12.1.13; 12.4.6  
Reading/Writing: 12.1.2; 12.3.1; 12.3.2 Science: 12.4.4; 12.7.3

# PROJECT ENGAGE STANDARDS

- **Time Lapse**
- **Objective's):** Students will (1) describe success ional changes in an ecosystem and the factors that affect these changes, and (2) relate species diversity to success ional habitat changes. **Method/Overview:** Using science videos, students create and analyze a series of sketches depicting changes in the variety and quantity of wildlife as an ecosystem undergoes success ional change. Students research the kinds of animals that are found in each stage. **Subject Area's):** Science, Environmental Education, Expressive Arts **Grade's):** 7-12 *Art Materials, Too Hot To Handle DVD, Walking With.. DVDs*
- **Nebraska State Standards:** Math: None Science: None Reading/Writing: 8.3.1; 8.3.2  
Social Studies: None
- **Turkey Trouble**
- **Objective's):** Students will (1) define and give examples of exponential and linear growth rates in wildlife populations, and (2) describe factors that affect and limit growth of wildlife populations. **Method/Overview:** Students make computations and interpret results. **Subject Area's):** Environmental Education, Math, Science **Grade's):** 7-12 *Plato, Internet, Log Books*
- **Nebraska State Standards:** Math: 12.2.1 Science: 12.1.3; 12.7.2  
Reading/Writing: None Social Studies: None
- **Urban Nature Search**
- **Objective's):** Students will (1) generalize that each habitat has characteristic life forms, and (2) suggest ways that the environment affects the life forms that occupy it. **Method/Overview:** Students go outside to observe an environment and use a questionnaire to assist in gathering data. **Subject Area's):** Science, Language Arts, Environmental Education; **Grade's):** 7-12 *Art Materials, Log Books, Outdoor Classroom, Ecology VQ*  
**Nebraska State Standards:** Math: None Science: 8.2.1; 8.4.4; 8.4.5  
Reading/Writing: 8.3.1; 8.3.2 Social Studies: None

# PROJECT ENGAGE STANDARDS

- **We're in This Together**
- **Objective's):** Students will (1) identify environmental problems of concern to both people and wildlife, and (2) generalize that people; domesticated animals and wildlife are subject to similar environmental problems. **Method/Overview:** Students interview people to identify environmental problems and then analyze, interpret, and summarize their findings. **Subject Area's):** Social Studies, Science, Language Arts, Environmental Education **Grade's):** 7-12 *Log Books, Nebraska Game and Parks Material*
- **Nebraska State Standards:** Math: None Social Studies: 12.1.12; 12.1.13  
Reading/Writing: 12.2.1; 12.2.2; 12.2.5 Science: 12.7.4
- **Which Niche?**
- **Objective's):** Students will (1) define ecological niche, and (2) give at least one example of an animal and its ecological niche. **Method/Overview:** Students compare ecological niches with careers in their community. **Subject Area's):** Social Studies, Science, Environmental Education, Language Arts **Grade's):** 7-12 *Plato, CareerLink, Five Kingdoms of Live DVD*
- **Nebraska State Standards:** Math: None Reading/Writing: 8.3.1; 8.3.2  
Science: 8.1.1; 8.4.4 Social Studies: None
- **Wildwork**
- **Objective's):** Students will identify and describe a variety of wildlife occupations. **Method/Overview:** Students research wildlife-related careers and present their findings to the class. **Subject Area's):** Social Studies, Language Arts **Grade's):** 7-12 *Career Link, Internet Research*
- **Nebraska State Standards:** Math: None Science: None  
Reading/Writing: 8.1.2; 8.3.1; 8.3.2 Social Studies: 8.3.8
- **Where Does the Water Run?**
- **Objective's):** Students will describe relationships among precipitation, runoff, and aquatic habitats. **Method/Overview:** Students will (1) measure and calculate the area of the study site, (2) calculate the volume and weight of water falling on the study site, (3) determine specific and annual rainfall and runoff, and (4) trace the course of water to aquatic habitats. **Subject Area's):** Math, Science, Environmental Education **Grade's):** 7-12 *Log Books, Area Surrounding the JJC*
- **Nebraska State Standards:** Math: 8.3; 8.4; 8.5 Science: 8.4.5; 8.5.1  
Reading/Writing: None Social Studies: None

# PROJECT ENGAGE STANDARDS

- **World Travelers**

- **Objective's):** Students will (1) identify native and exotic plant and animal species through local investigation, (2) interpret graphs and maps of the concentrations of native and non-native species, and (3) identify the effects of introduced species on ecosystems. **Method/Overview:** Students conduct field research, develop graphs or pie charts and maps depicting the proportions of exotic species, and create reports on the effects of these species on native populations. **Subject Area's):** Science, Math, Environmental Education **Grade's):** 7-12 *Bill Nye Plants DVD Invertebrates DVD NE Game and Parks Material*
- **Nebraska State Standards:** Math: 8.5.2 Science: 8.2.1; 8.4.5; 8.7.2; 8.7.3  
Reading/Writing: None Social Studies: None

- **Aquatic Roots**

- **Objective's):** Students will (1) trace the origins of various species of local aquatic animals, aquatic plants or both; (2) categorize them into native and exotic species; and (3) evaluate the appropriateness of introducing new species. **Method/Overview:** Students use reference materials to research various local aquatic plants, or animals, to find out whether they are natives or exotics and to investigate their effects on people, other animals, and the environment. **Subject Area's):** Science, Social Studies, Environmental Education **Grade's):** 7-12 *Bill Nye Rivers and Streams DVD NE Game and Parks Material*
- **Nebraska State Standards:** Math: None Science: 8.1.1; 8.4.5; 8.6.2; 8.7.2; 8.7.3  
Reading/Writing: None Social Studies: None

- **Designing a Habitat**

- **Objective's):** Students will identify the components of habitat that are essential for most aquatic animals to survive. **Method/Overview:** Students design a habitat suitable for aquatic wildlife to survive in a pond. **Subject Area's):** Science, Language Arts, Expressive Arts, Environmental Education **Grade's):** 7-12 *Outdoor Classroom, Bill Nye Rivers and Streams DVD*
- **Nebraska State Standards:** Math: None Science: 8.1.1; 8.1.2; 8.4.4  
Reading/Writing: 8.1.1; 8.1.2; 8.1.5; 8.2.1 Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Dragonfly Pond**
- **Objective's):** Students will (1) evaluate the effects of different kinds of land use on wetland habitats, and (2) discuss and evaluate lifestyle changes to minimize damaging effects on wetlands. **Method/Overview:** Students create a collage of human land-use activities around an image of a pond. **Subject Area's):** Environmental Education, Social Studies **Grade's):** 7-12 *Art Materials, Digital Camera, Bill Nye Rocks and Soil DVD*
- **Nebraska State Standards:** Math: None Science: 8.1.1; 8.4.3; 8.4.5; 8.7.2; 8.7.3  
Reading/Writing: None Social Studies: 8.3.8
- **How Wet Is Our Planet?**
- **Objective's):** Students will (1) describe the amount and distribution of water on the Earth in oceans, rivers, lakes, ground water, ice caps, and the atmosphere; and (2) make inferences about the importance of responsible water use. **Method/Overview:** Students calculate water volumes using percentages. **Subject Area's):** Math, Environmental Education, Social Studies **Grade's):** 7-12 *Log Books, Life in the Rainforest VQ, Water Cycle Model*
- **Nebraska State Standards:** Math: 8.2; 8.3.1; 8.3.2 Social Studies: None  
Reading/Writing: None Science: 8.1.1; 8.1.2; 8.2.1; 8.5.1; 8.4.5
- **Mermaids and Manatees**
- **Objective's):** Students will (1) describe how imaginary creatures may be inspired by actual animals, (2) distinguish between mythical and actual aquatic wildlife, and (3) give examples of how wildlife can inspire myth and art. **Method/Overview:** Students describe aquatic animals using a narrative style of writing that, in turn, is the basis for a drawing or painting done by other students. **Subject Area's):** Language Arts, Environmental Education, Social Studies, Expressive Arts **Grade's):** 7-12 *Art Materials, Bill Nye Reptiles and Invertebrates, Life of Mammals DVDs*
- **Nebraska State Standards:** Math: None Science: None  
Reading/Writing: 8.2.1; 8.2.2; 8.2.3; 8.2.4 Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Micro Odyssey**
- **Objective's):** Students will (1) identify forms of microscopic life that live in water, and (2) describe how various aquatic organisms are interrelated. **Method/Overview:** Students will examine, draw, paint, and identify microorganisms in pond water. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Art Materials, Digital Camera, Cell Processes DVD*
- **Nebraska State Standards:** Math: None Science: 8.1.1; 8.4.4  
Reading/Writing: None Social Studies: None
- **The Glass Menagerie**
- **Objective's):** Students will describe the characteristics of oligotrophic and eutrophic aquatic habitats, emphasizing the effects of nutrient loading. **Method/Overview:** Students observe and describe changes in physical characteristics of several different experimental aquatic habitats that they create. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Log Books, Microscope, Outdoor Pond and Papio Creek*
- **Nebraska State Standards:** Math: None Science: 12.1.1; 12.1.5; 12.2.1; 12.7.4; 12.7.5  
Reading/Writing: None Social Studies: None
- **Water Canaries**
- **Objective's):** Students will (1) identify several aquatic organisms, and (2) assess the relative environmental quality of a stream or pond using indicators of pH, water temperature, and the presence of a diversity of organisms. **Method/Overview:** Students investigate a stream or pond using sampling techniques. **Subject Area's):** Science, Environmental Education **Grade's):** 7-12 *Log Books, Water Testing Kit, Outdoor Pond and Papio Creek*
- **Nebraska State Standards:** Math: None Science: 8.1.1; 8.1.2; 8.1.3; 8.2.1; 8.4.4; 8.4.5  
Reading/Writing: None Social Studies: None

# PROJECT ENGAGE STANDARDS

- **Pond Plant Art**
- **Objective's):** Students will identify aquatic plants as an important component of aquatic habitats and as a necessity for aquatic wildlife. **Method/Overview:** Students create artwork showing aquatic habitats using drawings and pressed aquatic plants. **Subject Area's):** Science, Environmental Education, Expressive Arts **Grade's):** 7-12  
*Art Material, Outdoor Pond and Papio Creek*
- **Nebraska State Standards:** Math: None      Science: 1.1.1; 1.2.1; 1.4.1; 1.4.2; 1.5.1; 4.1.2; 4.2.1; 4.3.1; 4.4.1  
Reading/Writing: None      Social Studies: None
- **What's in the Air?**
- **Objective's):** Students will (1) describe acidic precipitation, (2) generate and test hypotheses concerning effects of acidic precipitation, and (3) make inferences about the potential effects of acidic precipitation on aquatic life. **Method/Overview:** Through simulations and direct measurement the students experience differing conditions of acidity in aquatic habitats and explore the consequences of acidic conditions on aquatic life. **Subject Area's):** Science, Social Studies, Math, Environmental Education **Grade's):** 7-12 *Log Books, Water Testing Kit, Outdoor Pond and Papio Creek*
- **Nebraska State Standards:** Math: 8.3; 8.5;      Science: 8.1.1; 8.1.3; 8.2.1; 8.4.5; 8.7.2; 8.7.3; 8.7.4; 8.7.5  
Reading/Writing: None      Social Studies: None
- **What's in the Water**
- **Objective's):** Students will (1) identify major sources of aquatic pollution, and (2) make inferences about the potential effects of a variety of aquatic pollutants on wildlife and wildlife habitat. **Method/Overview:** Students analyze the pollutants found in the Papio Creek. They graph the quantities of pollutants and make recommendations about actions that could be taken to improve the habitat. **Subject Area's):** Science, Math, Environmental Education **Grade's):** 7-12 *Log Books, Water Testing Kit, Papio Creek*
- **Nebraska State Standards:** Math: 8.3; 8.5      Science: 8.1.1; 8.1.3; 8.2.1; 8.4.5; 8.7.2; 8.7.3; 8.7.4; 8.7.5  
Reading/Writing: None      Social Studies: None