Conservation Education Programs

Education and outreach are important to us at Trumbull SWCD. The district offers a variety of relevant, interactive classroom presentations to any Trumbull County school, home-school group, or youth organization. These programs, correlated to the content standards, are adaptable to different grade levels and ages. Standards for each program are listed below each program. If your grade's standards do not appear under the program and you still want that program, we are happy to present any program you select. They are also provided FREE OF CHARGE.

We can customize any program to fit your needs (either in class or assembly) or hold "Conservation Days", covering several topics at a time. Field trips our facilities can also be planned.

To schedule a presentation for your students, please call **Barbara Enoch** at **(330) 637-2056, EXT. 101 or email enoch@embarqmail.com**

Program Catalogue

Please note: We are currently evaluating all program offerings. The list below is the full catalog of offerings from this office at this time. Programs that have been evaluated, updated or introduced will have the standards listed under them. If you do not see a program you have used in the past, we can always restore it.

Water programs

Creek Critter Clues/Stream Watch— Find out how tiny macro-invertebrates in our rivers and streams give clues to the water's health in this introduction to stream quality monitoring. (4-12)

The Incredible Journey — With a roll of the die students simulate the movement of water molecules within the water cycle as they collect beads to simulate that water molecules travel independently of others. (4-8) *reworking for field day fun activity*

The Ways of Water Treatment — It's a dirty job, but someone has to do it! Wastewater and drinking water treatment are demonstrated with this table-top model. (3-6)

- 3.ESS
  - Some of Earth's resources are limited.
- 4.LS
  - Changes in an organization's environment are sometimes beneficial to its survival and sometimes harmful.
- 5.LS
  - Organisms perform a variety of roles in an ecosystem.
- 6.ESS

- Rocks, minerals and soils have common and practical uses.

Wetland Wonders—Discover wetlands and their functions. Common household items are used as metaphors demonstrating the values of wetlands to humans and animals. (4-12)

What in the World is your Watershed? — This program demonstrates the concept of watersheds as well as water pollutants and their sources. (7-12)

Soil/Rock/Erosion Programs

Secrets of Soil—Students discover what soil has to do with them through discussion and a big book. Painting with soil is also included! (Pre-K – 2)

Look to the Cookie— The importance of soil is emphasized as students discover that all the ingredients in their favorite after-school snack can be traced back to that stuff under our feet. (2-4)

Soil Formation Processes—Activity stations allow students to breakdown rocks just like Mother Nature, then record their observations. (4-6)

Rock Cycle Journey—Your classroom becomes a large game board as students review the geologic cycle, growing, eroding, morphing and weathering their way around the room. (5-8) *reworking for field day fun activity*

Soil Salad – Mix up a batch of nutritious soil for your favorite plant and see just what it takes to make soil that produces life. (2-5)

Edible Soil—In this learning activity, participants will get an introduction into the composition, layers, and life forms in our soil. They will use pudding, graham cracker crumbs, Oreo cookies, gummy worms, and shredded coconut to learn about what materials make up soil and how important it is to our everyday life. (3 – 6)

- K.LS.
  - Physical and behavioral traits of living things
- 1.LS.
  - Basic needs of living things
- 2.LS.
  - Living things cause changes on earth
- 3.ES.S.
  - Earth's nonliving resources have specific properties
- 5.LS.
  - Interactions within ecosystems. Organisms perform a variety of roles in an ecosystem
- 6.ESS.
  - Rocks, minerals and soil.

Animal programs

Fill the Bill—Carry your discussions on animal adaptations a little further with this hands-on program that demonstrates why it's impossible for a hummingbird to gobble up a mouse or a hawk to slurp nectar from a flower. (3-9)

- 3.LS
  - Individuals of the same kind differ in their traits and sometimes the differences give individuals and advantage in surviving and reproducing.
- 5. LS
  - Organisms perform a variety of roles in an ecosystem.
- 8.LS
  - The characteristics of an organism are a result of inherited traits received from parent(s).

Ohio's Wildlife — Explore pelts and skulls to see how Ohio's wildlife survives. Adaptations in dentition and fur are examined to allow students to identify herbivores, carnivores, and omnivores and living environments of animals.

- 4.LS
  - Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.
- 5.LS
  - Organisms perform a variety of roles in an ecosystem.
- 6.LS
  - Living systems at all levels of organization demonstrate the complementary nature of structure and function
- 8.LS
  - Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species.

The Web of Life—The interdependence of plants and animals within food chains and within eco-systems is emphasized, while students create a food web tracing energy back to soil, water and the sun. The basic needs of all animals are also discussed. (2-5)

Francis the Fish – Join Francis in this interactive story of the day in the life of our favorite fish. Journey with Francis down the river and see how pollution can harm his home. Students discuss what they can do to help Francis and his friends stay healthy in their local aquatic habitat. . (Pre-K-1)

- Pre-K:
  - Explore objects, materials, and events in the environment.
  - Pose questions about the physical and natural environment
  - Identify patterns and relationships
  - Make inferences, generalizations, and explanations based on evidence
  - With modeling and support, develop understanding of the relationships between humans and nature, recognizing the difference between helpful and harmful actions toward the natural environment
- K.LS:
  - Living things are different from non-living things.
  - Living things have physical traits and behaviors, which influence their survival.
- 1.LS:
  - Living things have basic needs, which are met by obtaining materials from the physical environment.
  - Living things survive only in environments that meet their needs

Squirmy Wormy Friends – Students discover the benefits of worms by observing a compose environment and learn what worms eat and survive in their underground world. (Pre-K-2)

- Pre-K:
  - Inquiry
    - Make careful observations
    - Record observations using words, pictures, charts, graphs, etc.
  - Explorations of the natural world
    - With modeling and support, develop understanding between humans and nature; recognizing the difference between helpful and harmful actions toward the natural environment.

    - Explorations of living things
        - With modeling and support, demonstrate an understanding that living things change over time (e.g., life cycle).
- K.LS
    - Living things have physical traits and behaviors, which influence their survival.
- 1.LS
    - Living things have basic needs, which are met by obtaining materials from the physical environment.
    - Living things survive only in environments that meet their needs.
- 5.LS
    - Organisms perform a variety of roles in an ecosystem

Animals in Winter – Animal survival depends on three behaviors (migration, hibernation, and adaptation). Students learn about these behaviors from reading a book and learn empathy for animals in Ohio winters by making birdfeeders.

- Pre-K:
    - Explore objects, materials, and events in the environment.
    - Pose questions about the physical and natural environment
    - With modeling and support, recognize familiar elements of the natural environment and understand that these may change over time (e.g., soil, weather, sun, and moon.
    - With modeling and support, develop understanding of the relationships between humans and nature, recognizing the difference between helpful and harmful actions toward the natural environment
    - With modeling and support, identify physical characteristics and simple behaviors of living things.
    - With modeling and support, identify and explore the relationship between living things and their environment (e.g., habitats, food, eating habits, etc.)
    -
    - Coordinate the use of hands, fingers, and wrists to manipulate objects and perform tasks requiring precise movements.
    - Use classroom and household tools independently with eye-hand coordination to carry out activities.
- K.LS:
    - Living things have physical traits and behaviors, which influence their survival
- 1.LS:
    - Living things have basic needs, which are met by obtaining materials from the physical environment.
    - Living things survive only in environments that meet their needs
- 2.LS:
    - Living things cause changes on earth
- 3.LS:
    - Individuals of the same kind differ in their traits and sometimes the differences give individuals and advantage in surviving and reproducing.
    - Plants and animals have life cycles that are part of their adaptations

Bees and Friends – Meet Mason and his new friend the Mason Bee and take the “sting” out of pollinators. Students meet some of the many pollinators that are necessary for food production and try pollinating flowers personally. Students make a pollinator craft to take home. (Pre-K – 2)

- Pre-K:
    - With modeling and support, develop understanding of the relationships between humans and nature, recognizing the difference between helpful and harmful actions toward the natural environment

- K.LS:
    - Living things have physical traits and behaviors, which influence their survival.

- 1.LS:
    - Living things have basic needs, which are met by obtaining materials from the physical environment.
    - Living things survive only in environments that meet their needs

Plant Programs

Sow-A-Seed – Plant journaling for all ages. This program uses the scientific method of observation and journaling to record age appropriate aspects of plant growth. Students make "grass heads" to use as the observation subject. Young children use a plant journal to draw their observation while older students can use the "grass heads" to record germination rates for a variety of grass species or any other thesis about plant growth. This program may also satisfy LA standards in journal writing and mathematics standards in construction of charts and graphs. Your educator will bring all supplies to make the "grass heads" and have a short discussion on the topic that is suitable for your class. (Pre-K – 12)

- Pre-K:
    - Coordinate the use of hands, fingers, and wrists to manipulate objects and perform tasks requiring precise movements.
    - Use classroom and household tools independently with eye-hand coordination to carry out activities.
    - Measure length and volume (capacity) using non-standard and standard measuring tools.
    - Explore objects, materials and events in the environment
    - Make careful observations
    - Pose questions about the physical and natural environment
    - Engage in simple investigations
    - Record observations using words, pictures, charts, graphs, etc.
    - Use simple tools to extend investigations.
    - Make predictions.
    - Make inferences, generalizations and explanations based on evidence.
    - With modeling and support, develop understanding of the relationship between humans and nature; recognizing the difference between helpful and harmful actions towards the natural environment.
    - With modeling and support, identify and explore the relationship between living things and their environment (e.g., habitats, food, eating habits, etc.)
    - With modeling and support, demonstrate an understanding that living things change over time (e.g., life cycle)
- K.LS
    - Living things are different from nonliving things.
    - Living things have physical traits and behaviors, which influence their survival.
- 1.LS
    - Living things have basic needs, which are met by obtaining materials from the physical environment.
    - Living things survive only in environments that meet their needs.
- 3.LS
    - Plants and animals have life cycles that are part of their adaptions for survival in their natural environment.

- 4.LS
    - Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.
- 5.LS
    - All the processes that take place within organisms require energy.
- Biology
- Environmental Science

This or That —Tree ID for the very young. Children sort leaves as broad leaf or evergreen then continue divisions based on varied characteristics. (Pre-K - 2)

Which Tree am I? – Using the icebreaker game *Who Am I* and a dichotomous key, students identify which Ohio tree they have been assigned. A fun introduction to dichotomous keys. (3 – 8)

We All Need Trees – Did you know trees play an important part in space exploration? Students are often surprised to discover the many different products we get from trees. Find out how trees go far beyond the usual paper and wood. (K-5)

Daffodil Dissection – Take apart a daffodil flower to see all the reproductive parts of plants. *Available spring only.* (3 – 12)

Conservation Programs

Trash or Treasure – This program introduces recycling to young children. Students sort through real "garbage" to learn how items can be reused, recycle, or reduced.

Thinking about Tomorrow - Students focus on their individual responsibility for the future with an eco-footprint calculator and how they affect the future by their own actions. (6-12)

Social Studies Issues

Global Warming: Fact or Fiction – Is there really something to get concerned with or are we just being hoodwinked. Learn some facts and misinformation and judge them yourself. Then, discuss your views with a presentation and open discussion on this hot current issue. (9-12)

Ohio Wildlife History 1 – Students use a game board to understand the animal population change (extirpation and reintroduction) through Ohio's history. Students will find that the animals that have inhabited the "Ohio Country" and their habitats have changed greatly from 1870 to present in this student-involved timeline. (4-8)

Ohio Wildlife History 2 – Follow the history of wildlife legislation. An in depth study of how wildlife laws are introduced and become laws and the effects of those laws. (9-12)

Mathematics Connections

The Mathematics of Nature – Explore how nature uses math to optimize growth and sustainability using concepts such as Fibonacci sequence and how engineers and meteorologists use math in their professions. (Prerequisite – Algebra)

2017 NACD Stewardship Emphasis

The National Association of Conservation Districts stewardship emphasis for 2017 is "Healthy Soils Are Full of Life." The national poster contest and district essay contest (due to the TCSWCD office by April 7, 2017) will be on this topic. If you would like an in-class explanation of the topic to jump start your students, we are available to help. You may also find helpful information HERE. We are also available for assemblies on this year's topic.

Past NACD Programs

- **2016** – We All Need Trees – the functions of trees in the environment
- **2015** – Local Heroes: Your Hardworking Pollinators – all types of pollinators and their by-produces
- **2014** – Dig Deeper: Mysteries in the Soil – the life in soil, what comes from soil and soil conservation
- **2013** – Where Does Your Water Shed? – defines watershed, path from rain to glass, watershed health

Loan Materials

Trumbull SWCD has models for loan.

Envision 3000 Series Bedrock Model (black) – bedrock cross-section to illustrate groundwater flow. It can be used to show porosity, aquifers and permeability. It can be used to illustrate groundwater flow and contamination and septic system functions.

EnviroScape Drinking Water and Wastewater Treatment Model (brown) – used for Source Water Environmental Education Teams (SWEET) events. It illustrates water paths under ground.

EnviroScape Nonpoint Source Model (green) – watershed model to illustrate point and nonpoint pollution.

- Riparian kit – additional materials for river environments
- Wetlands kit – additional materials for wetland environments
- Groundwater kit – additional materials for general environments