4th-5th Grade Program List 2015-2016

The programs listed are sponsored by the Cass County Conservation Board and are designed to actively involve your students. **Call Lora Kanning at 712-769-2372 or e-mail lkanning@casscoia.us to schedule a program** (some require four weeks in advance)! Each program length will be made to fit your schedule.

PROGRAMS TO FIT YOUR CURRICULUM:

- Paper VS Plastic Bags- A great topic for your class to investigate, and then include my program. We will learn about some major differences and how to become better consumers by learning some symbols that are on products. Iowa CORE: Science, life science, **Essential Concept and/or Skill:** ***Understand and apply knowledge of environmental stewardship.***
- Vermicomposting- Worms eat my garbage!? Find out how these amazing creatures love our leftovers! Many extension activities available!

- Mending the Majestic Bald Eagle – Can we see as good as an eagle? We'll find out! Plus learn about food chains, migration, and some eagle math. Optional DVD video, game, and **field trip** opportunity!

- All Living Things Pass Through Life Cycles- I will bring in my collection of insect larvae for students to look at and identify. We can discuss metamorphosis, as well as, invertebrates vs. vertebrates. They will be amazed at the invertebrates that were found right here in Cass County and be shocked to learn that a "baby" dragonfly looks like *THAT!*

- Animals Need Food, Water, Shelter and Space- During this activity we will define a habitat, predator, prey, and the basic needs of animals. We will follow the discussion with an outdoor (or gym) activity that will allow your students to become animals in search of food and safety in the games Quick Frozen Critters and/or Oh Deer. Will all of the students survive? Why or why not? Iowa CORE: Science, life science ***Essential Concept and/or Skill: Understand and apply knowledge of organisms and their environments, including:***

• Structures, characteristics, and adaptations of organisms that allow them to function and survive within their habitats.
• How individual organisms are influenced by internal and external factors.
• The relationships among living and non-living factors in terrestrial and aquatic ecosystems.

- The Solar System and Beyond- My nine inflatable planets will allow your students to visualize the major size difference of the planets! We will then move outside to look at the distance between planets and discuss rotation and revolution. Students won't soon forget this hands-on lesson! Iowa CORE: Science, Earth and Space, **Essential Concept and/or Skill:** ***Understand and apply knowledge of the properties, movements, and locations of objects in our solar system.***

- Vertebrate Animals- Are snakes vertebrates? Most students will be surprised to see the snake skeleton and that they actually do have *a lot* of bones! After discussing other creatures that have backbones the class will end up playing the Vertebrate Grab game to help review the lesson.

- Water Vapor and Water Cycle- during these activity students will become water molecules, and walk their way through the water cycle. After defining terms such as water vapor, condensation, etc.

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students will again travel through the water cycle, grabbing a partner when they represent a water droplet and will travel alone as water vapor. This active lesson will help your students better understand water vapor and precipitation. Iowa Core: Science Earth and Space **Essential Concept and/or Skill:** ***Understand and apply knowledge of the water cycle, including consideration of events that impact groundwater quality.***

OTHER PROGRAMS:

Energy Flows Throughout an Ecosystem- Each student becomes a plant or animal as they develop their own food chain and food web. We can discuss important terms such as community, habitat, ecosystem, predator, prey, carnivore, etc. Students will have a clear idea of how everything is connected. Iowa CORE: Science, Life Science, **Essential Concept and/or Skill:** ***Understand and apply knowledge of:***
• interdependency of organisms, changes in environmental conditions, and survival of individuals and species.
• the cycling of matter and energy in ecosystems.

Great Backyard Bird Count- February is the Great Backyard Bird Count. Everyone is needed to participate, even if you can only correctly identify one kind of bird! I will visit your classroom and help your students understand their important role in this national program. Your classroom can do this activity together or the students can take it home to have it become a family-oriented event. Last year Atlantic tied for first place in the state, and received an award, for submitting the most checklists! Can we do it again?
If your class is learning about the internet, this would be a great program for them, they could submit their results on-line!

IOWATER- As a certified IOWATER volunteer, I would like your class to join me in a stream as we look at the stream habitat, look for water critters (the ones we find can tell us a lot about the water quality), complete simple chemical tests, etc. How much you want to do is up to you. The students will need background information ahead of time therefore; I would like to personally meet with the teacher ahead of time to discuss the specifics. **Great field trip opportunity!** (Four weeks advance notice please.) Iowa CORE: Science, Science as inquiry *Select and use appropriate tools and techniques to gather, analyze and interpret data.*
The use of tools and techniques, including computers, will be guided by the questions asked and the investigations students design. Students should be able to access, gather, store, retrieve, and organize data, using computer hardware and software designed for these purposes.

The Long Haul **field trip option** After the students calculates how many gallons of water they use in a day we will discuss why so much more water is being used today than long ago. Then, they will get a chance to take a turn at hauling their own water. This activity will definitely make them stop and think!

Monarch Migration- September only. We will begin by reviewing the monarch life cycle. The class will then learn about tagging the monarchs and the citizen science behind it.

Orienteering-We'll start with the basics & move on to finding our way around a pre-made course. (Four weeks advance notice please, 20 compasses available) **Great field trip opportunity!** **optional** orienteering treasure hunt activities at Outdoor Educational Classroom near Massena.

Polluting? Who, ME?- Students will have a chance to design and develop riverfront property however they would like (an amusement park, a hotel), then we will piece their properties together and see what we have developed along our river and how much pollution they each contributed. What do the people think down stream? For older children point and non-point source pollution can be discussed.

Pollutions and Solutions- I will bring my 3-D model of a watershed complete with houses, industries, golf courses, etc. as your students get a very basic introduction of water pollution and, most importantly, learn ways to prevent pollution. This is a great hands-on activity that will involve all of the children.

Real, Live Endangered Species- Your students will get to see a live animal (an ornate box turtle) that is listed as threatened on Iowa's Endangered Species list. I could also bring several mounted critters (Trumpeter Swan, River Otter, and Bobcat) that are, or have been, on the list. This program can be adapted for all ages.

Recycle Magic! - After learning facts about deforestation, we will learn how to make our own recycled paper! Iowa Core: Science, Science as Inquiry

_ *Generate questions that can be answered through scientific investigations*

_ *Use evidence to develop reasonable explanations*

_ Life Science

_ *Understand and demonstrate knowledge of environmental stewardship*

Rock It- Learn about rocks, minerals and fossils and where they come from. Iowa Core: Science Earth and Space ***Understand and apply knowledge of fossils and the evidence they provide of past life on earth. Fossils provide evidence of plants and animals that lived long ago and the nature of the environment at that time.***

Salmon Struggles- Learn about the salmon's life cycle and the dangers that they face in their migration. The students will become salmon…can they survive the obstacles?