

School District of Rhineland

CAVOC

First Grade Curriculum 2017

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FALL

FALL BACKGROUND INFORMATION

INSECTS

Insects come in many colors, shapes and sizes. Insects have six legs and three main body parts. They have a head, a middle part called the thorax, and a back part called the abdomen. They also have two feelers on their head called antennae. These body parts make insects different from animals like worms and spiders.

In first grade, we will we capture an insect and identify whether it is an insect or not an insect by counting its body parts. By manipulating craft sticks, rocks, sticks and leaves, we will show the parts of an insect. We will locate areas that insects can be found. We will discuss how insects protect themselves in different Wisconsin climates. Both harmful and beneficial effects of insects will be discussed.

We will draw an insect with permanent markers on tinfoil. Then we will mount the tinfoil onto black construction paper with glue. Finally, the insect drawings will be mounted on a 5 ½ X 5 ½ wooden block with flat tacks.

Interesting Insect Facts

- Insects use their legs to run, walk, jump, dig and even sing!
- There are about five million different kinds of insects in the world!
- Insects wear exoskeletons on the outside of their body for protection. It's like a suit of armor.
- Insects have a heart, brain, a tummy, air sacs, and nerves. Even though these organs do not look like a human's, they function in similar ways.
- All insects are cold-blooded. When big bugs shiver, they are warming up before they fly.
- Insects do not have noses. They smell with their antennae or feelers.
- Insects can see, smell and hear some things that humans can not

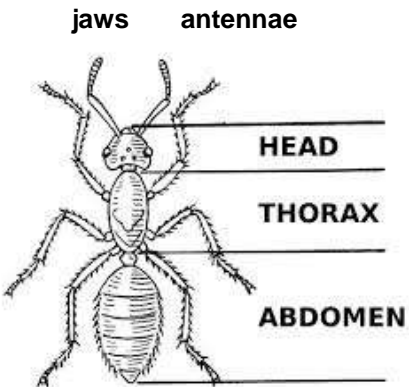
PRE VISIT ACTIVITIES

- Survey your students using a tally chart to find out how they feel about insects. Keep the results and compare them to the same survey after they visit the school forest. (10 minutes)

Do You Like Insects?

<u>Yes</u>	<u>No</u>

- Draw and label the three main parts (head, thorax, abdomen) of an insect. Add and label the antennae, legs, wings and jaws. Most insects have wings. (10 minutes)



ACTIVITY #1 CATCH AN INSECT

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS1.D-Information Processing: Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive.

Standard LS3.A-Variation of Traits: Individuals of the same kind of animal are recognizable as similar but can also vary in many ways.

Process

- With the teacher's guidance the class will draw and label an insect's head, thorax, abdomen, jaws, legs, wings on a large construction paper. (7 minutes)

- Hold each bug card up to determine/discuss whether it is an insect or not an insect. The identification is on the back of each bug card. (13 minutes)

- Pass out insect catching nets and insect containers. Go outside and capture an insect! Fill out **Bug Watch** worksheet. (20 minutes)

- Release insects. Emphasize putting insects back into their habitat. (5 minutes)

Name _____

BUG WATCH

Carefully observe your bug. Follow the directions.

<p>1. Write a number in each blank to tell how many parts your bug has:</p> <p>___ head ___ thorax</p> <p>___ abdomen ___ legs</p> <p>___ antennae ___ eyes</p> <p>___ nose ___ wings</p> <p>___ mouth ___ skeleton</p>	<p>2. Illustrate your bug.</p>
<p>3. Watch your bug carefully. Write what it is doing.</p>	<p>4. Draw a picture of your bug's natural habitat.</p>

ACTIVITY #2 LET'S EAT LIKE AN INSECT

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS1.D-Information Processing: Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive.

Process

- To review the three main body parts (head, thorax, abdomen), the students will manipulate the items in a bag (craft sticks, rocks, small twigs, leaves) to create a temporary insect. They will use 3 rocks for the head, thorax and abdomen. The craft sticks will be the 6 legs and the small twigs will be the antennae and the leaves will be the wings. Distribute a bag to each student. When finished, the students will put the earth materials back into their bags. The materials will be used again and again. *****An alternative to using the materials in the bags would be for the students to go outside to find their own earth materials to create a temporary insect!***** (15 minutes)
- Inform the students that by looking at the mouth parts of an insect, we can gather clues as to what and how they eat. There are four basic types of insect mouths. They will simulate how each type of insect mouths eat! (30 minutes)
- Some insects have mouths that work almost like ours. They bite and chew their food. But because insects have no teeth, they use their strong jaws and sharp edges of their mouths to bite and chew. Have

students bite and chew marshmallows like crickets, grasshoppers, roaches, mantids, dragonflies, beetles, termites, and ants.

- Some insects have strong mouth parts that look like a hose. They use these to suck nectar from flowers. Ask the children to suck the “nectar” (Kool Aid) from their cups using the straws like moths, butterflies, and bees.
- Another group of insects has mouth parts that work like a hypodermic needle. They jab their food and suck the liquid out. Demonstrate by jabbing an orange with a plastic syringe and sucking out the liquid. Allow the students an opportunity to do the same. Mosquitoes, lice, fleas, and aphids have this type of mouth.
- A few insects have mouth parts that they use to soak up liquids like a sponge. Have students use pieces of sponge to soak up any Kool Aid left in their cups. The common housefly has a mouth like this.

ACTIVITY #3 INSECT TERRITORY

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS1.D-Information Processing: Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive.

Process

- To review the insect's body parts, teach the easy song *Head, Thorax, Abdomen*. It has the same rhythm as *Head, Shoulders, Knees and Toes*. Wendy will show you the simple actions too. (10 minutes)

Head, Thorax, Abdomen

Head. Thorax. Abdomen. (abdomen)

Head. Thorax. Abdomen. (abdomen)

Six legs, two antennae, and usually some wings.

How about those compound eyes? (compound eyes)

- Students will explore the surrounding areas for insect habitats. Search the soil. Examine the trees, ponds, and man made structures. How about some dark corner or a windowsill? Only in oceans are very few insects found. Using a clipboard and the worksheet below, the students will write the places that they found insects. (20 minutes)
- Gather the students to share the places that they found insects. Help children to conclude that insects are tough little creatures that have adapted to life almost everywhere. (7 minutes)

- Helpful or Harmful? Discuss the advantages (eat other harmful insects; pollinate plants; eat dead organisms; cultivate the soil; produce honey, beeswax and silk; provide food for birds; reptiles, amphibians, fish and other animals) and the disadvantages (spread diseases; destroy crops, trees, and plantlife; make life difficult for humans and animals; scare us). Remember that some insects could be in both groups. Termites, for example, destroy wooden structures, but they also clean up decayed wood on the forest floor. (8 minutes)
- View dead insects under the microscopes.

Name _____

INSECT TERRITORY

List the places that you found an insect.

ACTIVITY #4 DESIGN AN INSECT (S.T.E.A.M.)

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS3.A-Variation of Traits: Individuals of the same kind of animal are recognizable as similar but can also vary in many ways.

Process

- With the teacher's guidance the class will draw and label an insect's head, thorax, abdomen, jaws, legs, wings on a large construction paper. (7 minutes)
- The students will draw and label a scientifically correct insect on a square piece of aluminium foil. Then the students will glue it on a square black construction paper. Finally, the students will lightly hammer four flat tacks to mount their creation onto a square wooden block.

RAINY DAY ACTIVITIES

- Activity #1 Catch an Insect-Complete the first two steps, but instead of going outside, examine rubber critters. The students will draw and label the critters that are insects. (45 minutes)
- Activity #2 Let's Eat Like an Insect (45 minutes)
- Activity #3 Insect Territory-Complete all activities, but limit the insect territory search to 10 minutes inside the building. Concentrate in looking for where insects could be found in windowsills, floors and corners. Also, after discussing if insects are harmful or helpful divide the class into pro- and anti-bug teams. Students will make posters showing that they are a pro-bug or an anti-bug team member. (45 minutes)
- Activity #4 Design an Insect (S.T.E.A.M) (45 minutes)
- ABC Scavenger Hunt in the museum
- Scavenger Hunt questions

FOLLOW UP ACTIVITIES

- Students will finish these sentences:
 1. Insects are...
 2. Insects can...
 3. Insects have...
- Students will use the rubber bug stamps to put in “insect” or “not insect” groups
- Insect Bingo (Wendy has this game. Everyone is welcome to borrow it.)
- Use playdough and the small, rubber insects to create an insect fossil
- Teach students song;

Never Squash a Bug (Row, Row, Row Your Boat)

Never, never squash a bug
They're Mother Nature's friends
Catch one in a plastic jar
Then let it go again!

- Survey your students again using a tally chart to find out how they feel about insects after learning about insects. Then compare the survey results with the results of the survey that was taken before they learned about insects at the school forest.

Do You Like Insects?

<u>Yes</u>	<u>No</u>
III	IIII

FIRST GRADE SCHEDULE

- All teachers choose an activity to teach three times. Each group of students will visit each teacher. Begin with your homeroom, then move your students to the next alphabetical teacher. For example: Deitz to Houg to Schmidt to Deitz. This schedule was written for four teachers in the rotation. We will work together to figure out how to do all four activities with our students. We could teach the extra activity to our own homerooms or have a parent volunteer lead the fourth activity.

9:00-9:45 First Rotation (all teachers begin with their homerooms)

9:45-10:30 Second Rotation

10:30-11:15 Third Rotation

11:15-11:45 Lunch

11:45-12:15 Recess (bring balls, frisbees, hula hoops, etc./see Joe)

12:15-1:00 Fourth Rotation

1:00-2:00 First Grade Hike/scavenger hunt/your choice

2:00 Board Buses

WINTER

WINTER BACKGROUND INFORMATION ANIMAL ADAPTATIONS

Animals are adapted to their environment in order to survive. Animals may be adapted to changes in their habitats. For example, snowshoe rabbits have a white winter coat to blend with a snowy environment and a tan summer coat to blend with summer ground and vegetation colors.

Chameleons change color to blend with their surroundings. The walking-stick insect can look like a twig or stick. Fawns have spotted hair that resembles dappled light on the forest floor.

The students will understand the importance of adaptation to animals. They will be looking at pictures of animals (snowshoe hare, long-tailed weasel, chameleon, walking stick, fawn, toad, tree frog, garter snake) that have adapted to their environment to survive.

They will learn that some animals in the winter change color to survive. For example, the snowshoe hare and the long-tailed weasel change colors to help them hide from their enemies.

The students will learn the importance of animals being camouflaged by participating in a scavenger hunt. In the snow, the students will locate and list a variety of white objects (kleenex, cotton ball, white stuffed animal, white towel, white paper).

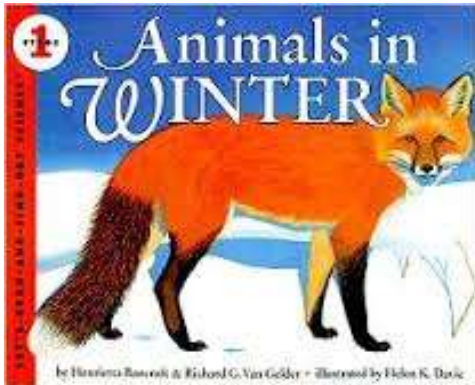
The students will also play *The Thicket Game*. The students will become “predator” and “prey” in a version of “hide and seek” while they learn the importance of adaptation to animals.

The students will also participate in snowshoeing, sledding and making bird feeders while visiting CAVOC in the winter.

Pre Visit Activities

- Teacher will read *Animals in the Winter* by Richard Van Gelder

<https://www.youtube.com/watch?v=zU1DP8GPghE>



- Begin a KWL chart to see what the students know about how animals survive in the winter. Refer back to the chart after the winter visit to CAVOC.

ACTIVITY #1 SNOWSHOEING
45 Minutes



ACTIVITY #2 SLEDDING
45 Minutes



ACTIVITY #3 ANIMAL ADAPTATIONS

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS1.D-Information Processing: Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive.

Process

- Discuss the Animal Adaptation Cards with the students. On the back of each card tells how the animal has adapted to their environment. We want the students to understand the importance of adaptation to the animals' survival. (10 minutes)
- Remind the students of the snowshoe hare and the long-tailed weasel. Their fur turns white in the winter to help them hide from enemies. Give students clipboards and ***Hidden White Items*** worksheet in the snow. The students will write white items (kleenex, white stuffed animal, cotton ball, white paper, etc.) that they find on the scavenger hunt. (10 minutes)
- Bring students together to discuss the white items that they found. Remind students that animals that blend in with their environment are difficult for their enemies to see. They are adapted to their environment in order to survive. (5 minutes)
- In *The Thicket Game*, the students become “predator” and “prey” in a version of “hide and seek.” Take the class to a “thicket.” Choose one predator to cover his/her eyes and to count to 15 slowly. The other students are the prey. The prey hides. The students hiding must be

able to see the predator all of the time. After counting, the predator must look for the prey, but can not walk or change location. He/she must only squat, turn around or stand on his/her tiptoes. The predator calls out the preys' names. This means that they are eaten. A new predator is chosen. (15 minutes)

- Discuss what would have made it easier to not get eaten. Some ideas that may come out are: changing colors (clothes); wearing clothing that doesn't stick to plants; being of smaller size; and climbing a tree. (5 minutes)

Name _____

Hidden White Items

ACTIVITY #4 MAKING TWO BIRDFEEDERS

45 Minutes

Standard LS.A-Structure and Function: All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Standard LS1.D-Information Processing: Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive.

Process for Bird Feeder A

- Each student will spread peanut butter on a pinecone. Then they will roll the pinecone in bird seed. Place the feeder in a tree.



Process for Bird Feeder B

- First, each student will string cheerios on three long pipe cleaners. Then the students will connect the three pipe cleaners by looping them together. Next, the students will put small globs of peanut butter onto a few of the cheerios. Finally, the students will roll the cheerios in bird seed. Place the feeder in a tree.



- When students are finished making the birdfeeders, they can look at a variety of books about how animals survive in the winter.

FOLLOW UP ACTIVITIES

- Add more information to the KWL chart
- Writing activity: Describe the importance of adaptation to animals. The students can include examples of animal adaptation.

SPRING

SPRING BACKGROUND INFORMATION-PLANTS

First graders will learn that plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. They will learn that some plants have special ways of defending themselves. The students will use bubbles to see if the plant has a strong defense.

They will learn that plants that are recognizable as being the same can vary in many ways. The students will participate in a pea pod experiment to show that even though pea pods come from the same plant, they're not all alike. They will classify leaves by shape, size and color.

The students will learn about soil by collecting soil samples from different areas of the forest. They will observe the different soils and discuss the color, texture and dampness of the soil. The teacher will lead a discussion about what types of soil are healthiest for plants. The students will also sort a bag of river rocks using a screening process. The Earth materials will be labeled (large pebbles, small pebbles, large gravel, small gravel, sand) and sort by size.

Finally, the students will plant a seed and construct a wooden planter.

PRE VISIT ACTIVITIES

- Given ten minutes, have your students write down as many plants as they can. Discuss their lists. Is each item a plant?
- Label the parts of a plant (roots, stem, leaves, flowers, fruit).
- <https://www.youtube.com/watch?v=s2r5LLy9Qaw> Parts of a Plant (2 minutes)
- https://www.youtube.com/watch?v=ql6OL7_qFgU Parts of a Plant Song (3 minutes)

ACTIVITY #1 PLANT TRICKSTERS

45 Minutes

Standard LS1.A-Structure and Function: All organisms have external parts. Plants have roots, stems, leaves, flowers and fruits that help them survive and grow.

Standard LS1.D-Information Processing Plants have parts that capture and and convey different kinds of information needed for growth and survival. Plants respond to these inputs with behaviors that help them to survive.

Process

- Draw and label the parts (stem, leaf, flower, fruit) of a plant. (5 minutes)

- Explain to the students that some plants have tricks to battle enemies. These tricks help the plant survive. Show and discuss the seven Plant Trickster cards. (10 minutes)

- Take students outside with clipboards. The students will be looking for those same plants on a trail. When the students find those plants, they will write their names on **PLANT TRICKSTERS** worksheet. As the class finds the plants, review the plant's defense against their enemies. (15 minutes)

- Many times sharp edges (nettles, thorns) of a plant will keep an enemy from eating it. The students will test different plants by blowing a bubble on a plant. If the plant pops a bubble, the plant has a good defense against enemies. If the bubble lands safely on the plant, it probably doesn't have a good defense against enemies. (15 minutes)

Name _____

PLANT TRICKSTERS

ACTIVITY #2 SOIL SEARCH

45 Minutes

Standard LS.1D-Variation of Traits: Earth materials that are recognizable as similar but can also vary in many ways.

Process

- Discuss the fact that different plants and animals live in different places due to many factors (shelter, temperature, amount of water, sunlight, etc.) One of the reasons for differences is the soil and earth materials in the area. In pairs, the students will take containers and scoop a few spoonfuls of soil in different areas of the grounds. Ideally, each pair of students will take a soil sample from a different area. (15 minutes)

- Students gather in the building to examine all of the soil samples with hand lens. Make the connection between different plants and animals live in different places because of the different of soil and earth materials in the area. (10 minutes)

- Each pair of students will be given a bag of Earth materials, screens and 5 containers to screen according to size. Students will place the following labels in the matching containers. (20 minutes)

large pebbles

small pebbles

large gravel

small gravel

sand

ACTIVITY #3 COMPARE/CONTRAST PLANTS

45 Minutes

Standard LS1.A-Structure and Function: All organisms have external parts. Plants have roots, stems, leaves, flowers and fruits that help them survive and grow.

Standard LS3.B-Variation of Traits: Individuals of the same kind of plant are recognizable as similar but can also vary in many ways.

Process

- Draw and label the parts (stem, leaf, flower, fruit) of a plant. (5 minutes)
 - Students will travel outside to compare the bark of trees. Discuss the bark's color and textures. (5 minutes)
 - Students will choose 10 leaves and will classify them according to size, shape and color. (5 minutes)
 - Remind students that even though trees can look similar, they can have different bark and leaves.
 - Bring students inside to examine the picture of a pea plant. Hand each student one pea pod. Ask how the pea pods are alike/different.
1. Are they all the same length?
 2. Are they all the same color?
 3. Do they all have the same amount of peas in them? Count them!
 4. Students will tally how many peas are in different pods.
 5. Did the size and the shape of the pods play a role in how many peas are in a pod?

- Conclude that plants of the same species aren't always the same. Even though pea pods come from the same plant, they're not alike. (15 minutes)

ACTIVITY #4 WOODEN PLANTER (S.T.E.A.M.)

45 Minutes

Process

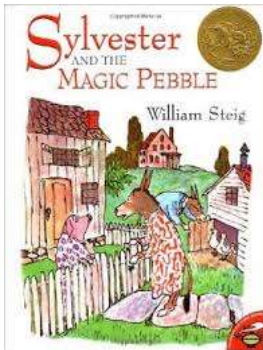
- Students will use five wooden squares and eight nails to construct a wooden planter. The outside of the wooden planter will be decorated with permanent markers. Encourage the students to draw a different plant on each side of the planter.
- Students will use soil, seeds and an empty milk carton to plant a seed. The milk carton will fit inside the wooden planter. The milk carton acts like a liner.

RAINY DAY ACTIVITIES

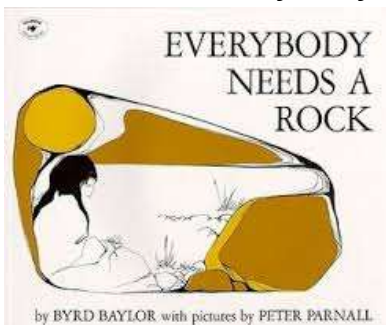
- Activity #1 Plant Tricksters-Discuss Plant Tricksters Cards, Write all plant tricksters on ***Plant Tricksters*** worksheet. Students create a scene on paper that show the plants using their defenses against people and animals. (45 minutes)
- Activity #2 Soil Search-Students will screen Earth materials into labeled (large pebbles, small pebbles, large gravel, small gravel, sand) containers. Then make a poster that shows how people use large pebbles, small pebbles, large gravel, small gravel and sand. (45 minutes)
- Activity #3 Pea Pod Comparison Activity and Leaf Classifying Activity (45 minutes)
- Activity #4 Wooden Planter (S.T.E.A.M.) (45 minutes)

Follow Up Activities

- Walk around the outside of the school to find where large pebbles, small pebbles, large gravel, small gravel and sand can be located. Make a chart of the findings.
- Read *Sylvester and the Magic Pebble* by William Steig.



- Read *Everybody Needs a Rock* by Byrd Baylor.



- Using a paper plate, sunflower seeds, yard, paper, rafferty, make and label the parts of a plant.
- Discuss the parts of a plant that we eat (flower-broccoli, stem-celery, roots-carrot, seed-sunflower seed, fruit-tomato)
- Students will finish these sentences:
 1. Plants are...
 2. Plants can...
 3. Plants have...

