Clover Adventures
A Leader's Resource Guide

University of Maryland Extension
Frederick County 4-H Youth Development
Educators & 4-H Friends,

Welcome to the Clover Adventures Youth Development program. Clover Adventures is an early childhood education program designed to foster growth and development of youth between the ages of 5 and 8 years.

The Clover Adventures program is organized into 12 lessons to be taught individually or in a group. Each lesson offers a variety of educational activities for the youth to expand their knowledge about their community and 4-H. The lessons are easily adapted for monthly clover meetings and can be used for a period of three years with the same group of clovers. The educator may select a different group of suggested activities each year so that returning youth will have a different experience than the prior year, and still learn valuable information from the lesson.

Included in the resource are online resources and links which may be valuable to you as an educator when preparing your activities. The links include curricula and websites, which support the lessons adapted from Project Learning Tree, Junior Master Gardeners, and State Clover Curriculums.

For more information about Youth Development or other 4-H activities please contact your local extension office or Maryland 4-H.

The Clover Adventures program was piloted in three county 4-H programs in Maryland prior to the revision in 2008. I hope you find the program and resources useful in your program and classroom. The possibilities are endless, and there is a GREAT Clover Adventure awaiting you!!!

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4-H Extension Educator – Frederick County
University of Maryland Extension

Lessons and activities were developed and adapted by 4-H Educator, Donielle Axline. Supporting curricula includes JMG, PLT, Project Wet, Project Wild, and Minnesota Extension Service Cloverbuds activity sheets.
Clover Adventures
Instructor Evaluation

Thank you for being a part of the Clover Adventures Youth Development Program. In an effort to continue providing new activities for clover leaders, we would appreciate your comments and thoughts.

- Are you currently utilizing an early youth development curriculum? ______
  If yes, please reference__________________

- How many youth, between the ages of 5-7 years, are impacted by your program?
  ____________________________

- What subject areas do you feel you require more educational resources?
  ________________________________

- Do you intend to utilize the Clover Adventures Curriculum in your early youth development program? _______________

- What section of the Clover Adventures Curriculum do you feel will be most beneficial to your program?
  ________________________________

If you would like to receive more information and supplemental materials please provide your contact information (mail and email).

____________________________________________________________________________________

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FREDERICK COUNTY 4-H
Citizenship and Governance

Objective:
Youth will learn the American and 4-H Pledge.
Discuss with youth the pillars of Character Counts®.
Illustrate helping others using the four “H’s.”

Lesson Outline:

🌟 Activity: “Patriotic I Spy” (7-9 minutes)
Grade Level: K-2
Materials: A small American Flag placed in the room inconspicuously.

Invite the children to play a game of “I Spy.” Give hints such as:
You can find me inside or outside.
I can fly.
I have stars and stripes.
I am in parades.
I am red, white, and blue.

After the children have discovered the flag, ask them these questions:
Can you name some places you’ve seen flags fly?
Why do we have flags?
Can you name some holidays that flags are flown on?
What are way people respect the flag?
Share these interesting facts about the flag with the children:
Each color represents something: red stands for hardiness and courage; white stands for purity and innocence; and
blue stand for vigilance, perseverance, and justice.
Each of the stars stands for one of the 50 states.
Each of the stripes stands for one of the original 13 colonies.
American flags should never touch the ground.
June 14th is Flag Day; that when our flag was adopted.
Flags shouldn’t fly in bad weather, or at night unless they
have a spotlight on them.
The American Flag is over 200 years old!

**Application:** Ask the children to look throughout their community for American Flags being displayed.

**Activity:** “The Pledge of Allegiance” (5-7 minutes) and “The 4-H Pledge”

**Grade Level:** K - 2

**Materials:** An American Flag, a poster board with the words to the pledge on it.

Explain to the group that a pledge is like a promise. When you pledge your allegiance, or loyalty to the flag, that means you are making a promise to your country. Show the children how to put their right hand over their hearts. Help them recite the pledge:

I pledge allegiance to the flag
Of the United States of America
And to the Republic for which it stands,
One Nation, under God,
With liberty and justice for all.

Remind the children that showing respect for the flag is important.

**Application:** Ask the children to look at people the next time they
are in a group saying the Pledge of Allegiance. People in military uniforms will salute the flag and men will remove their hats out of respect for the flag.

Activity: “The 4-H Pledge” (3-5 minutes)
Grade Level: K-2
Materials: A poster board with the 4-H pledge printed on it.

Remind the children that a pledge is like a promise. Just as the Pledge of Allegiance is a promise to our country, the 4-H Pledge is a promise to our club, community, country and to our world. Help them learn the 4-H Pledge by reciting it to them:

I pledge:
My head to clearer thinking. (right hand point to forehead)
My heart to greater loyalty. (right hand over heart)
My hands to greater service, (arms slightly bent, palms up)
And my heath to better living (arms at sides)
For my club, my community, my country and my world.

Application: Encourage the children to think of ways to fulfill these promises every day.

Activity: “American Flag Seek and Find”
Grade Level: K – 2
Materials: Reproduced Seek and Find Puzzle
American Flag Seek and Find

Look from left to right and up and down to see if you can find these words:

- RED
- FLAG
- STARS
- WHITE
- AMERICAN
- STRIPES
- BLUE
- RESPECT
- PLEDGE

O W R E S P E C T M R
S W H I T E M J F B C
T D U Z R D P B L U E
A M E R I C A N A V P
R F X O P Q N W G G U
S Y C R E D X Y O B T
A B S R S P L E D G E
4-H Friendship Bracelet

Needed: Leather lace  1 dark blue bead
        1 white bead  1 yellow bead
        1 clear bead  1 green bead
        1 brown bead  1 purple bead
        1 sky blue bead

4-H Promotes Learning by Doing - Measure the strip of leather 14 inches long and tie a single knot at 5 inches. This leather strip and the knot represent all that you “learn by doing” in the 4-H program.

4-H Emblem: A green four-leaf clover with 4 white H’s, one on each leaf. Slip a white bead on the leather until it reaches the first knot. This bead represents the 4 H’s on the clover. The white stands for purity and wholesomeness. Head, Hearts, Hands and Health represent the whole self.

4-H Pledge: I pledge...

My head to clearer thinking - slip in a clear bead to represent the first H - Head. This stands for clearer thinking.

My heart to greater loyalty - Slip in a dark blue bead on to represent the next H - Heart. This is symbolic of loyalty, like the blue field of the American Flag.

My hands to larger service - Slip a yellow bead on next to represent the third H - Hands. Yellow is the color of sunshine and warmth. When you serve others, it is you shining through.

My health to better living - Slip on a green bead next to represent the fourth H - Health and the green clover. Green represents life, growth, and creativity.

For my club, my community, my country and my world. Slip a brown bead on to represent the whole earth. Brown is the color of the soil, the substance that gives each of us strong footing to move forward.
**4-H Motto:** To **Make the Best Better** - Slip a purple bead on next to represent royalty. Purple is the color placed on champions. Make it your goal to always strive to be better.

**Goals and Ideals** - Tie a second knot to hold the beads in place. By tying these knots, we are reminded to always keep our goals firm and our ideals in place.

**Completion** - Now we are ready to complete the bracelet. In 4-H, you can complete as many projects as you learn the values this bracelet represents.

**The sky's the limit** - Slip both ends of the leather through the sky blue bead, going opposite directions, and tie a knot at both ends. The sky blue bead represents your potential as a 4-H member. Remember,

The sky's the limit when you are a 4-H member!
CHARACTER COUNTS:

Pillars of Character Counts -

Trustworthy: Deserving of trust and dependable
Respectful: Consider with high regard
Responsible: To be accountable
Fair: To be just or equal
Caring: Feel interest or concern
Citizenship: Being a good citizen

Frederick County 4-H

A Place Where Character Counts!
Activity: "Character Counts Collage" or "The Four H’s Stand For..."

**Character Collage:**

1. Cut pictures from magazines of different people in action.
2. Have members decide which people are exhibiting at least one of the six pillars of Character Counts®.

   **Ask:** Which pillar is exhibited?
   
   Can you explain why this person is ________________________?

3. Glue the pictures onto a large clover cut-out and display in the room to share with others.
The Four H's Stand For....

Draw a picture illustrating how you can help your community using the four H's:

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I Pledge:

My Head to Clearer Thinking

(Right hand points to forehead)

My Heart to Greater Loyalty

(Right hand over heart)

My Hands to Larger Service

(Arms slightly bent, palms up)

and My Health to Better Living,

(Arms at sides)

For My Club, My Community, My County, and My World.
COMMUNICATING WITH OTHERS
Communication and Public Speaking

Objectives:
1. Youth will learn methods to communicate.
2. Discuss with youth feelings and gestures.
3. Illustrate methods of communication.

Lesson Outline:
☆ Have the group start by saying the 4-H Pledge and the American Pledge.

☆ Ask the group, “What are different types of feelings?” and “How do we know when someone is feeling _____?”

☆ “My Feelings” or “Say What” Handouts.

☆ “How might you feel is...” Handout. Once complete, ask the group “How do we communicate with others?”

☆ In a circle or small groups, demonstrate the hand gestures in “Hand Talk.” Have the groups or individuals answer aloud what gesture is being presented.
My Feelings

Sometimes I feel confused.
Yes No
I feel most confused when ____________________

Sometimes I get angry with people.
Yes No
I get the most angry when ____________________

Im happy
☐ all of the time.
☐ most of the time.
☐ never.
what makes me happiest is ____________________

Sometimes I feel scared.
Yes No
When I’m scared, I ____________________

Sometimes I cry.
Yes No
I feel saddest when ____________________

Right now I feel: ____________________

(Finish the face)
Say WHAT?

What is each puppy trying to tell you?
Write your answers in the bubbles.

Act out or tell how you show what each puppy is showing.
How might you feel if...

Color the faces that show your feelings.

Your cat runs away and you can't find it.

You win first place at the fair.

Kids are teasing you about your new glasses.

You're moving to a new house in another town.

You have a new baby brother.

Write your own!

Talk about it:

1. Do you have more than one feeling in each situation? Mark all the faces that show how you feel. Tell a parent or partner all your feelings about each thing.

2. Do other members feel just the same as you do about each thing?
Hand Talk
What does it mean?

Means:   Means:   Means:   Means:

Means:   Means:   Means:   Means:

Means:   Means:   Means:   Means:

Means:   Means:   Means:   Means:

Make four of your own!

Means:   Means:   Means:   Means:
**If Bugs Could Talk Activity**

*Materials:*
- Costume supplies (optional) - Ribbon, crepe paper, pipe cleaners, and scarves.
- Noisemaker supplies—sandpaper, noise makers to imitate clickers, and paper clips (provide odd combinations of things)
- Cotton balls and cologne
- Flashlights
- Message cards

1. **Group students as insect communicators by type:**
   - Touch Communicators—use pipe cleaners antennae to touch each other.
   - Visual Communicators—use flashlights to code a message.
   - Sound Communicators—use sandpaper to signal a message.
   - Chemical communicators—use perfume or other strong smelling fluids as “road maps”

2. **Give each group a Message Card.**
   Allow 5-6 minutes to prepare an insect demonstration that will communicate a specific message using no words.

3. **The audience should try to guess the message.** They can just the communication and presentations with a point system:
   - 3—Easy to understand
   - 2- Difficult to get the message
   - 1- Didn’t get it.

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**AG FACTS—How Insects Communicate**

A bee that locates a new field of flowers will return to the hive and perform a “waggle” dance.

Visual communication takes place when fireflies or “lightening bugs” make flashes of light.

Sounds of buzzing are what attract mosquitoes to each other. Termites, stoneflies, and some spiders make sounds by striking some part of the body against a hard surface. Crickets and katydids make chirping sounds by rubbing one forewing against a scraper on the other forewing. Grasshoppers rub their legs against their wings to make noise.
Message Cards

Visual Communicators 1
- Fireflies
- Use only: Flashlights and flash patterns
- Message: I miss you. Want to get together?

Visual Communicators 2
- Butterflies
- Use only: Red construction paper
- Message: Look out! A hawk!

Sound Communicators 1
- Crickets and grasshoppers
- Use only: Sandpaper
- Message: I'm here. Anybody home?

Sound Communicators 2
- Hissing cockroaches
- Use only: Hissing noises
- Message: Leave me alone. Leave me alone.

Touch Communicators 1
- Ants and other insects that live in darkness
- Use only: Pipe cleaner antennae
- Message: I know you.

Touch Communicators 2
- Honeybees
- Use only: Waggle Dance
- Message: The clover field is over there.

Chemical Communicators
- Caterpillars
- Use only: Cotton balls and cologne
- Message: This way to the food.

Waggle Dance directions:
In the shape of a figure 8, the bee makes two half circles in opposite directions with a straight run between the two half circles. The bee waggles, or shakes, her abdomen when making a straight line across the middle part of the “8.” The other bees crowd around and touch the dancing bee with their antennae. The number of waggles in the straight line of the dance tells the other bees how far to fly to find the flowers.

If the dancing bee goes straight up through the middle of the 8, the other bees know the field of flowers is directly toward the sun. A straight downward run by the dancing bee indicates that the field is directly opposite the sun. All other directions are shown by the different angles.
Ask the group, “What are other ways we communicate with each other?” (Answer: Singing, etc) Have the youth complete “Strike Up The Band” and “Tune In” activities.

“If You’re Happy and You Know it…” Invite the children to sing along with this favorite tune. For each verse, let a different child pick an emotion and choose an action to go along with it.

If Your Happy and You’re Know It

If you’re _______ and you know it, ________________________!
If you’re _______ and you know it, ________________________!
If you’re _______ and you know it, and you really want to show it,
If you’re _______ and you know it, ________________________!

Talk about how you can tell when someone is feeling a strong emotion. What do they do or say that lets you know they are feeling that way?

Finger Play “My Feelings” Have the children recite this poem about feelings. Encourage them to make exaggerated faces to match the feeling in each line.

My Feelings

Sometimes I am happy (smile)
Sometimes I am sad (stick out bottom lip)
Sometimes I’ am frightened (open mouth and eyes wide)
Sometimes I am mad (furrow brow, make fists)
I have lots of feelings (hold hands out, palms up)
And for that I’m glad! (cross arms on chest and look proud)

Try doing this again, leaving out the last word of each line, but continuing to use exaggerated faces.
Strike up the band

Make your own music!

Look at these pictures. Tell how you would make and play each one, then do it!

Finger Plinker

You need:
- shoebox with lid
- scissors
- different sizes of rubber bands

Shaker

You need:
- beads, pebbles or uncooked rice
- empty catsup bottle

Comb Kazoo

You need:
- comb
- tissue or waxed paper

Water Pipes

You need:
- 8 glasses filled with different amounts of water
- spoon

Hummbuzzer

You need:
- mailing tube about 10 inches long
- pencil
- waxed paper
- rubber band

On how many of these instruments can you change tones? Why are the tones different?

Get together with your friends and make music!
Listen to a tape recording of soft instrumental music. Draw things the music makes you think about.

Compare your picture with other members of your group. Why are the pictures all different?
Communication Without a Voice

You can communicate with others without talking. Photos are a great way to share your feelings. Have the youth complete “Trick Photography” handout or “Playing with Sounds.”

Making music is a fun way to pass the time. Kids on the frontier found ways to create instruments from what they had. Often they mimicked the sounds they heard—sounds in nature, sounds of heir animals, or folk tunes that had been passed down from generation to generation. Make some instruments and have fun creating music.

Activity: Playing with Sounds
Make some instruments, discover what’s vibrating to make each sound (column of air, string) and experiment to get low and high pitches.

For Whistles—you’ll need:
Straw and scissors

a. Make a straw whistle by cutting one end of a straw into a triangular shape. Insert the cut end into your mouth forming a soft seal so no air leaks out.

b. Blow into the straw to make the flap vibrate like reeds. A buzzing sound will happen. Chew the flaps if necessary to flatten them out a bit.

c. Discuss ways to change the pitch on the whistle. Using scissors, snip three small holes that one finger can cover each hole.

For Noisy Chicken—you’ll need:
8-oz plastic drinking cups, cotton string cut into 24-inch lengths
a. Prepare cups ahead of time by using a nail or ice pick to punch two holes, 1/2 inch apart, in the bottom of each cup.

b. Hand out the cups and string to students so that each student can lace the string through the holes and tie a knot inside the cup. The string should hang down from the cup when it’s held upside down.

c. To make the “chickens” cluck, moisten the fingers of one hand. Hold the chicken/cup with the other hand and gently tug while sliding your moistened fingers down the string. This will produce a sound similar to that of a clucking chicken.

d. Have students experiment with making sounds with and without wetting the string and by tugging at different spots. Ask them to describe the differences. Discuss how sound travels.

e. Use the chicken cluckers to play rhythms to accompany familiar chicken songs.

For Unity Sticks—you’ll need:
Bamboo Sticks, vinyl tape in each of six colors (red, yellow, black, white, green and blue), Satin cord, beads

a. Provide bamboo sticks, vinyl tape, stain cord and beads.

b. Decorate. Red, yellow, black and white bands of color symbolize humanity. Blue and Green symbolize the earth.

c. Experiment with adjusting pitches on the sticks and practice different rhythms.

For other instruments:
Paper plates, plastic cups, straws, string, wire, yarn, empty shoebox, masking tape, stapler/staples, waxed paper, beans, toothpicks, paper tubes (all sizes)
Trick photography

Look at these drawings. What would you do to make photos look like these? Plan some of your own trick photos. Draw them on the back of this paper, then shoot them with your camera!
AG FACTS—Making Sounds

Since the beginning of time, humans have been creating sounds. People observed nature and learned to imitate the sounds they heard. Some of these sounds are what we would call music.

Over the years, people created many musical instruments from things such as a metal wire, which produced beautiful sounds when plucked.

Musical instruments that mimic the sounds of nature include flutes (birds), stringed instruments (wind in the trees), or bass drums (thunder).
MY FRIENDS AND FAMILY
Personal Growth & Families

Objectives:
1. Youth will recognize important people in their lives.
2. Discuss location and cardinal signs (N, E, S, W).
3. Illustrate methods to identify strangers.
4. Identify objects in the community.

Lesson Outline:
Have the group start by saying the 4-H Pledge and the American Pledge.

Ask the group, “Name people who are important to you.” These may include family members, friends, neighbors and teachers. Make the statement, “All the people we shared are part of our families and community. Can anyone tell me what a community is?”

Have each child complete “My Family Portrait” handout using pencils, crayons, etc. Allow sharing time for the youth to tell who is in their pictures.

Discuss exploring, “What do you look for when you are exploring?” and “Why should we explore our community?” (looking for safe places vs. unsafe places, families, stores, etc.)

Complete the “A Walk In My Neighborhood” scavenger hunt. After returning from the walk have the youth complete the “My Neighborhood” handout.

Discuss with the group directions such as North, East, South and West. Discuss the locations in the community which are located to the north, south, east or west by using a compass.
Here we are! ↑ That's our house too! ↑
We live at _______________________

Aren't we a great group!
A WALK IN MY NEIGHBORHOOD

I took a walk in my neighborhood. Here are some of the things I saw.

Growing Things
- Trees
- Grass
- Flowers
- Birds
- Animals
- Weeds
- Insects
- Vegetables

People
I saw _______ people.
The most interesting person was _______.

Wheel Things
I saw _______ things on wheels.
The biggest was _______.
The smallest was _______.

Flying Things
I saw _______ things that were flying in the air.
The biggest was _______.
The smallest was _______.

Beautiful Things

Ugly Things
- Broken glass
- Junk
- Marks on walls
- Paper on ground
- Other ugly stuff I saw

My favorite thing was _______.
The things I like most about my neighborhood _______.

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7. Have the group make a large map of the community. List place and things. Ask the group, “What are some of the places in town which everyone uses?” (safety items like fire hydrants, and convenience items like trash cans, stores, and public buildings).

8. After completing the map discuss how to identify strangers in the community and who is safe to talk to like police officers. Complete the “Police Officer” color sheet, or the Put The Police Officer Together” handout and have the youth color the “Just say No” coloring sheet.

9. Craft activity: Have the youth design and construct the “Ribbon Wind Sock” activity to display at their house in the community. Use different colors and try to use the 4-H clover.
What color is my uniform?

Remember.... A policeman is always your friend.
PUT THE POLICE OFFICER TOGETHER

TO DO AT SCHOOL OR AT HOME

1. Cut along the dotted lines.
2. Arrange the pieces so they make a complete police officer.
3. Tape them together and color the picture.
Just say NO if anyone offers you a ride! Tell your mom or dad!
Ribbon Wind Sock

Decorate the outside of your home with this wonderful windsock! Pick your favorite colors and decorate as desired.

Materials

- 9 yards Wrights* 5/8" Satin Ribbon (choose 3 coordinating colors of 9 yards each)
- 40.5" Wrights* 1/4" Ribbon
- 22.5" Wrights* 7/8" Box Pleat Ribbon
- 1 6" Embroidery Hoop
- 1 20" x 10" Piece of Non-stretch Fabric
- 1 Fabric Glue

Instructions

1. Press under 1/2" along one long edge of fabric. Glue to hold.
4. Using pins, mark fabric along outside of hoop into 3 equal sections. This will mark where to place the ribbon hanger. Cut 1/4" ribbon into three equal 13" lengths. Tie ribbons together at one end, forming a loop. At markings, glue ribbon ends to outside of fabric-covered hoop 1/4" from top edge.
5. Place outer ring of embroidery hoop into position, holding fabric and ribbon ties. Tighten screw to secure.
7. Glue box pleat ribbon to cover outside of embroidery hoop.
8. Enjoy!


Wind Sock

Materials

- Heavy cloth, about 36" x 24"
- 4 pieces (about 10" each) of heavy wire
- Wire coat hanger
- Stick (about 36" long)
- Large nail
- Wooden spool

Instructions

Form the hanger into a loop about 9" in diameter. Attach the 4 wires to this circular loop at 4 equidistant points on its circumference. Cut cloth into a sleeve (see diagram). Sew sides together, making a cone, and sew larger end of the cone to loop. Bind exposed ends of wires to the spool. Decorate and personalize your windsock! Place the nail through the spool so that the spool may pivot freely on the nail, and hammer the nail into the end of the long stick. Place stick outdoors; nail it to a tall post or to a rooftop away from obstructions, so that the sock may swing freely with the wind.

The large end of the sock will catch the wind, so that the small end will point away from the direction from which the wind is blowing, or will droop if there is not enough wind to keep it extended.

Observe the position of the sock at different times for changes in direction and force of the wind.
Supplemental Activities:

🌼 “You Are Here” sheet

🌼 “My Family Tree” sheet

🌼 “Important Spaces” Activity
   1. Ask the students what kind of places they think are in the neighborhood. Record their answers on the board.
   2. Take the students outside for a walk around the block or through the neighborhood. Along the way, have them point out places around your school where people live, work, and play. Note houses, apartment buildings, stores, recreation centers, libraries, playing fields, parks and so forth.
   Students can take digital pictures of the things they see in the neighborhood and use pictures in Step 3.
   3. When back inside, compare their earlier ideas with what they saw outside. Then write the words “Living Places,” “Working Places,” and “Playing Places” where everyone can see them. Then have students recall the places they spotted on their walk and put each place in one of the three categories.

🌼 “Friendly Faces” Activity
   1. Tell the students that besides places, our communities also have people on whom we rely. Pass out drawing paper and crayons or markers. Have the students think about, and then draw a picture of someone in their community upon whom they depend.
   2. Have the students share their pictures, describing the person they drew. As you discuss the pictures, talk about people on whom students depend but who they might not have thought about—the people who collect garbage, police the streets, run the grocery store, and so on. If possible, have some of these people visit your group and talk about what they do.
You are here!

Draw your state in the space at right.
Mark your town with a

1. Is your town in the north or south part of your state? 

2. Is it in the east or the west? 

3. Which direction is the equator from your state? 

4. What state is south of your state? 

Now, draw your state on this U.S. map.

What else can you tell about your state or town?
In what ways are members of your family alike?

In what ways are they different?
SAFE IN MY HOME
Indoor Safety

Objective:
1. Youth will learn their home phone number and address.
2. Discuss fire safety.
3. Identify hazards in the home.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. Ask: “Why is it important that we know where we live? And “How do we know where we live?” Say: Everyone has an address. Do you know what your address is?” Have the group complete “I Know My Address.”

Activity: I Know My Address” (7-9 minutes)

Materials:
Outline of house
Crayons or markers
Scissors
Index card for each child with their address printed

Give each child a house outline. Encourage them to fill in their address including house or apartment number, street, city, state, and zip code by looking at their index cards. Assist the children as needed. Reinforce their learning by saying their addresses out loud as you help them individually (many children can recite their addresses but are unfamiliar with what they look like in print). After they have finished printing their addresses, encourage them to color and decorate their houses to look like their own.

Application: Ask the children to look at mail that has been delivered to their house to see how their address looks when printed by a computer, typewriter or by hand.
My address is:

__________________________

My telephone number:

__________________________
3. Follow with the “I Can Tell and Spell” handout. Or the children can do the “I Know My Telephone Number” activity.

**Activity: I Know My Telephone Number**
- **Materials:** Telephone outline for each child, scissors, markers or crayons, curling ribbon and tape.

Give each child a telephone outline. Show them where to write their telephone number. Ask them to fill it in using their index card, if necessary. Help the children by repeating the numbers out loud as they write them. Let them cut the telephones out and help them attach the ribbon (curled to look like a telephone cord) to the telephone.

**Application:** Ask the children to think of situations where it would be important to know their telephone number.

4. Say: “Sometimes people can get lost so it is important to be able to describe the person to whom? How do we describe a missing person?” Play the lost child game.

**Activity: The Lost Child Game (7—9 minutes)**
- **Materials:** None.

Gather the children into a circle. Tell them you are going to play a game that requires using their observation skills and memory. Select one child to be a “police officer.” Have that child leave the room. Select two different children to be the parents and one more to be the lost child. Tell the “parents” to look carefully at their “child.” What does he/she look like? What is he/she wearing? Invite the “police officer” back into the room. Have the “parents” provide a description of their child. See if the “officer” can locate the lost child. Have the “parents” provide additional clues until the child is found. Repeat with
I CAN TELL AND SPELL

If YOU are ever lost or need to use a telephone to call for help,
YOU should know these things. Do you?

MY FIRST NAME IS

MY LAST NAME IS

MY NUMBER IS

— — — — — — — —

MY HOUSE NUMBER IS

— — — — — —

I LIVE ON

(Street, Avenue, Boulevard, Court, Drive, Place, Road, Circle)

Note: All children should be able to give this information if they are lost or need to call for help. If a child needs to report an emergency, he/she should also be able to give this information to a communicator.
new parents, police officer and lost child.

**Application:** Encourage the children to use their skills of observation and memory every day.

5. Ask: “How might someone get lost in their own home?” (in the dark, during a fire). Say: There are ways we can make our house safer in case there is a fire. What are some ideas you have to make your house safe during a fire? Play “Fire Safety With Simon: True or False.” When finished, pass out the paper copy of the phone or have a real phone present for the children to practice dialing 9-1-1. Have the children practice telling the operator their home address.

**Activity: Fire Safety With Simon: True or False** (5-7 minutes)

**Materials:** None

Tell the children to listen to what Simon says. Simon will say statements about fire and fire safety. If the statement is true, the children should jump up and shout “True!” If the statement is false, they should remain seated and shout “False!” Discuss briefly after each statement why it is true or false.

**Simon says:**

- Every house needs a smoke detector.
- If a fire starts in your house, run outside and get help.
- It’s okay to light candles without an adult.
- Never leave the room where something is cooking on the stove.
- You should have an escape plan in case of a fire.
- Papers or boxes too close to the furnace can be dangerous.
- If the smoke alarm buzzes, turn it off and go back to bed.
- It’s safe to lay papers on top of the stove.
- It’s a good idea to put a screen in front of a fire in the fireplace.
- Smoke detectors are only for schools.
- If a fire starts in your house, don’t leave without all of your toys.

Supplemental Activities:

- **ZAP Coloring Book**—provide each child with pages to color and discuss electric safety
- Emergency phone number list to complete at home with family.
Safety Tips for Children

- Never climb utility poles, transmission towers or fences around substations.
- Never touch electrical outlets with your fingers or with objects.
- Never play with electrical cords, wires or switches and keep them away from heat and water.
- If you are in contact with water never touch anything electrical like a light switch or hairdryer.
- Don't place cords where people may trip on them and don't place them under furniture. The cords could fray or kink.
- Don't pull on cords to unplug them.
- Never play around electrical wires or equipment.
- Stay away from areas marked DANGER: HIGH VOLTAGE.
- If climbing trees, stay away from those near power lines.
- Never throw objects at wires or utility poles.
- Keep away from electrical utility boxes (large green boxes). They contain high voltage equipment that can cause electrocution if tampered with.
- Stay out of open areas and away from trees during an electrical storm. Go indoors.
- Stay in the car during a storm because the rubber tires stop electricity from passing through it, if the car is struck by lightning or a fallen cable.
- Turn off lamps when changing light bulbs.
- Do not put your fingers in a light bulb socket.
- Keep combustible materials away from lamps or heating devices.
- Disconnect appliances before cleaning.
- Tell someone if you see a frayed electrical cord.
- Call the fire department in case of an electrical fire. If safe to do so, unplug the appliance and use a fire extinguisher or baking soda to douse the flames. Never use water!
- Call 911 if you see a person who has been or is being electrocuted - they may be unable to release an electrical wire or appliance - do not attempt to touch the they may be carrying the flow of electricity.
- Don't swim during an electrical storm.
- Don't plug in electrical appliances in the bathroom unless specific safety receptacles have been installed.

http://www.miltonhydro.com/esafchild.html
Follow the maze to the safe zone. Avoid the home dangers! Pick out 3 dangers. Tell your group how to handle each one safely. Do you have any dangers to clean up in your own home?
Follow ZAP in this book AND

he will show you ways to USE ELECTRICITY SAFELY!

Have fun coloring this book!

http://www.miltonhydro.com/images/Zap_page_1.GIF
What is electricity?
Electrical energy occurs naturally and is all around us. In its natural state it can be a small spark of STATIC ELECTRICITY or a giant bolt of lightning.
At power plants there are machines called generators that create electrical energy and send it along powerlines to your house.
Colour this picture. Draw the powerlines. Also draw your t.v. and plug it into the outlet.

http://www.miltonhydro.com/images/Zap_page_2.GIF
Let's play match-up

As you know, Electricity is the energy that we use to make things work.
Can you match the different things with the energy source they need?

Things

GIRLS AND BOYS
FLOWER
WINDMILL
TV
BICYCLE

Energy Source

SUN
OUTLET
WIND
GAS PUMP
LEGS
FOOD
CAR
Use this chart to decode the message and finish the sign.

Electrical Energy is very USEFUL, but used carelessly it can be very DANGEROUS.

Colour these pictures and remember these electrical safety rules.

Never fly kites near power lines. If one touches a line you may get zapped.

Fly your kite away from w_____.

Never go near a power line lying on the ground. It may be live and ZAP you.

Never touch p____ lines.

Tell Mom and Dad to be careful working on the roof, especially if putting up an antenna.

Stay out of trees near power lines. It could be fatal.

Stay out of t_____.

Careful on the r____.
Don't ever climb a hydro pole or tower. It's very dangerous and you could get ZAPPED!

Don't climb on the t_____.

Never stick anything in the toaster when it's plugged in. If a piece of toast is stuck, pull the plug before removing the toast.

Never poke or push things into outlets. Never poke the o_____.

Only bread in the t_____.

Stay away from the fuse box in your basement.

Stay away from the f_____.box.
Says REMEMBER, Don't touch fallen power lines and report them right away to an adult or hydro.
Make your way through this maze being careful not to touch any frayed wires. When you get to the outlet UNPLUG THIS DANGEROUS MESS!

START

What is the danger in this picture?

WATER AND ELECTRICITY DON'T MIX!

Here is a Secret Message that should not be a secret! Find these Electrical Appliances in the grid and colour them yellow.

<table>
<thead>
<tr>
<th>MICROWAVE</th>
<th>TAPE RECORDER</th>
<th>ELECTRIC TRAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPUTER</td>
<td>MIXER</td>
<td>TOASTER</td>
</tr>
<tr>
<td>RADIO</td>
<td>DISHWASHER</td>
<td>BLOW DRYER</td>
</tr>
<tr>
<td>LAMP</td>
<td>VIDEO GAMES</td>
<td>STOVE</td>
</tr>
<tr>
<td>TELEVISION</td>
<td>STEREO</td>
<td>OVEN</td>
</tr>
</tbody>
</table>

```
    M I X E R  R R  E M  E M  B E E E
    R I V I D E O G A M E S L
    D K K E E P L E C T T E
    I R O R A D I O I C A O C
    S L M T O A S T E R A V T
    H P P P L W L I A N C E R
    W E U S A B A W A Y F R I
    A O T M W L M V A T E R C
    S T R E O P O E R Y O T
    H A R U C W O U L O D G R
    E P E T Z D R Y E R V A A
    R E R E R C O R D E R P E I
    P E D T E L E V I S I O N
```

Fill in the blanks with the letters which are not coloured yellow. Start at the top and go left to right.

```
________________________
________________________
```

Emergency Phone Numbers

Emergency 911
Police Department
Fire Department
Poison Control Center
Hospital
Doctor
Dentist
Dad's Work
Mom's Work
Family Friend

Home Fire Safety Plan

If there is a fire in our home, this is what we do:

Two ways to escape from my bedroom are:

1. 

2. 

The place to meet outside our home is

Fire Safety Rules for everyone:
- Get out of the house as quickly as you can.
- Never go into a closet or under a bed to hide.
- Never go back into the house to get something once you're out.

If your clothes are on fire, remember to:
STOP, DROP, and ROLL!

Some of our safety rules are:

Sign here: (Parents and kids)
THE GREAT OUTDOORS
Outdoor Safety

Objective:
1. Recognize safe play areas.
2. Discuss appropriate dress for outdoors.
3. Identify hazards in the community.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. “Last time we were at 4-H what did we talk about? Does anyone remember? We talked about neighborhoods, and being safe around strangers. How else can we be safe outside?” (play areas, clothing, whom we play with)
3. If we are going to play outside what are some important items we should wear? (sneakers, pants vs. shorts, long sleeve vs. short sleeve, sunscreen, sunglasses, hats, etc.) Have the group color and make “Sid the Seagull.” Discuss safety with scissors.
4. Divide the group into smaller teams. Each team will design a safe outfit to play outdoors. Provide the youth with a bag of clothes, shoes, hats, gloves, etc—or toilet paper and tape. Give each group an activity to dress appropriately for.
5. Have each group explain why they chose the items they did for the activity. Encourage each person to participate. Next, complete the “Safe Play Places” handout. Have the children explain the different between the drawing after coloring.
6. Discuss with the group outdoor safety tips. Ask “What are some hazards or unsafe areas in our community where we should not play? And why?”
7. Have the group complete “Do It Right” or the “Find the Hazards” handout.
Make Sid Seagull SunSmart

When you’ve cut out the hat and Sid Seagull, make a small cut along the dotted line on Sid’s head and insert Tab C on the hat.

Cut out Sid Seagull and the stand, then make a cut along dotted line A, and insert the pieces together so Sid can stand upright.

Cut out the tree and the stand, then make a cut along dotted line B, and insert the pieces together so the tree can stand upright.

Cut along dotted line, and place Sid and the tree in the park.

What you’ll need: Scissors, glue (it’s a good idea to paste some card to the back of this sheet to make it stable), coloured pencils or crayons.
SAFE PLAY PLACES

... I can play here

... I cannot play here

... I can play here

... I cannot play here
Do it right!

This family isn’t quite ready to leave the driveway. What could you add to the picture to make a safer trip? Cross out any dangers you see. Remember to practice these safe habits.

Hand out window
Headset, door ajar, things on rear window ledge, flat tire,
Dangars to cross out: toys behind car, wearing a radio

Answers: Things you might draw: seatbelt, pet cage, looks on doors.
Find the hazards

There are many hazards facing this bicycle rider. Circle as many as you can find and think of the best way to avoid their danger. Always ride with a plan for emergencies. Safe planners are safer riders!
Activity: Bike Safety

1. Discuss bike safety and riding bikes along the road or in a neighborhood. Complete the "Steer Clear with Hand Signals" handout. Practice using the hand signals with the youth.

2. Set up an obstacle course for the youth to walk through or ride bikes through to practice using hand signals.

Outdoor Safety Tips for 4-H’ers and Helpers in Your Clover Program

- Only use electrical equipment designed for outdoor use.
- Be sure to install outdoor outlets with ground fault circuit interrupters (GFCI’s).
- Make sure your roof top antenna is grounded and away from power lines.
- Whenever possible, use a wooden or fiberglass ladder for outdoor work as aluminum ladders can be dangerous around electrical lines.
- CALL BEFORE YOU DIG. Call Miss Utility before you dig, drive a post or plant a tree. This service could prevent a serious electrical accident and is also the law.
- STAY AWAY FROM ALL DOWNED WIRES and keep away from puddles and fences that are near the wires.
- If someone is shocked, do not touch them! First unplug the appliance or turn off power at the electrical panel and call 911 for assistance.
- If your vehicle comes into contact with a hydro pole and there are downed hydro lines nearby, stay inside the vehicle until help arrives. If you must vacate the vehicle, remember that there could be electricity running through the ground. Exit the vehicle, jump as far as possible without touching the vehicle and ground at the same time, keep both feet together. Then hop away from the area—do not walk normally!
- When working near overhead power lines, carry ladder and other tall objects parallel to the ground to prevent contact.
Steer clear with hand signals!

According to the law, a bicycle rider must use the left arm to signal when turning or stopping.

What are the riders going to do?

Bike Safely! Tell what's wrong with each of these pictures.
SOIL, PLANTS AND INSECTS
Soil Science

Objectives:
1. Youth will learn parts of the soil.
2. Discuss plant life cycles.
3. Identify organisms in the soil.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. Ask: “What is the difference between dirt and soil?” Say: Soil is the material we plant our flowers and vegetables in; dirt is what we sweep up off the floor.” Have the children go outside with a cup and small gardening shovels. Have each child fill their cup half way with soil. Bring the soil inside and complete the “My Cup of Soil” handout. Or complete the “Here’s the Dirt!” activity.
3. Have the children discuss different types of plants which grow in the soil. “What are some tasty treats we can grown on plants to eat?” Complete the “Yum” handout. Provide crayons and colored pencils for the children. Once complete have the youth discuss what they drew on their papers.
4. Complete the “Garden Search” or the “Seed Search” handout (age of youth will determine which activity sheet is completed) and talk about the different plants we grow from seeds in our gardens and flower beds. Then have the children color the “Life Cycle of the Flower” handout. Once finished coloring in groups have the children cut out and place in order the life cycle of the plants or complete the Flower Fun activity.
My Cup of Soil

☐ I went outside and got a cup of soil.
☐ I put the soil on newspaper and looked at it carefully.
☐ I used a magnifying glass. [ ] [ ]

Some of the things I found were alive: [ ] [ ] Yes No

The most interesting thing was _____________________________

Here are some pictures I drew of the things I found in my soil.
Here's the dirt!

You need:
- Soil samples from many different places.
- Clear jars with lids
- Water

1. Put a handful of each different soil in separate glass jars.

2. Fill the jars with water and shake until the water looks cloudy.

3. Set the jars aside. Check after an hour or two. What do you see? __________________________

How are the samples different? __________________________

What does this tell you about soils? __________________________

Guide for more about dirt:
- Good garden soil is a mix of fine and coarse particles. See your teacher.
- Also, see a layer of fibrous pieces (humus).
- Largest soil pieces sink to the bottom; finer ones float. Sometimes you'll

73
Yum!

Fresh treats from the garden are tasty and good for us.

We eat seeds of some plants. Draw some seed foods here.

We eat roots of some plants. Draw some root foods here.

We eat fruits of some plants. Draw some fruits here.

We eat leaves of some plants. Draw some leaf foods here.

Turn your paper over and draw your favorite garden treat. Tell what you do to the food to make it ready to eat.
Garden Search

Find and color 10 garden things in this picture.
Try the garden word search game too!

**Down**
1. Many kinds of ____ grow in gardens.
2. The part of lettuce that we eat.
3. Many of these are garden pests.

**Across**
1. Bright green vegetable.
5. Thirsty plants need plenty of ____.
6. Plants that live for only one growing season.
7. Plants start out as ____.
8. Gardens give us good ____ to eat.

**Word Bank**
- hoe
- pea
- foods
- seeds
- insects
- plants
- water
- annuals
- leaves
Seed Search

How many plants can you name whose seeds make tasty treats for people? Check out the puzzle below. Names are across and down.

Adapted from A Teacher’s Guide for Arbor Month, Minnesota Arbor Month Committee. Used with permission.
Life cycle of a flower

Color these pictures. Cut them out and put them in order by pasting them on a larger sheet of paper.
Flower Fun!

You need:
- Crayons or markers
- Tape
- Pencil
- Green construction paper
- Scissors
- Cardboard strip 2" wide and a little longer than your paper.

You do:
1. Draw a flower face that covers the paper.
2. Poke eye holes with the pencil. (Measure with your fingers to see how far apart to put the holes.)
3. Tape the cardboard handle to the back of the flower.
4. Cut leaves from the green construction paper.
5. Hold your flower mask and leaves and pretend you’re a flower!

- Show how you would grow and blossom in early spring.
- Get together with your friends and be a bouquet!
- Choose people to be a bee, a butterfly, and a child in the flower garden. Put on a play!
5. To allow the children the opportunity to watch plants grow there are several activities the group may participate in. Follow the instructions on the following activities:

Activity: Soil Sam

Materials Needed:
- Knee-high nylon stockings
- Jiggle eyes
- Grass seeds
- Fabric
- Soil
- Scissors
- 6 oz Styrofoam cup
- Lace, ribbons, felt (optional)
- Water
- Glue

1. Make Soil Sams! Using knee-high hose, place some grass seeds in the toe where you want the grass to grow. The toe of the hose will be the top of the head of the Soil Sam and the grass will look like hair when it grows.
2. Pack a handful of soil in the end of the hose on top of the seeds. Use enough soil so the quantity of the soil is slightly bigger than the opening of the Styrofoam cup.
3. Tie a knot under the ball of the soil. Place the top of the hose (which is the bottom of the Soil Sam) in a Styrofoam cup will with water. The hose will absorb the water and saturate the head of the Soil Sam.
4. The grass seeds should germinate through the hose. You may have to cut a few small holes to aid in this step. To decorate, cut a round piece of fabric to fit over the mouth of the cup. You can decorate the fabric with lace or ribbons.
5. Glue jiggle eyes on the face and cut out felt for a mouth. The Soil Sam should be watered as needed. Cut the grass “hair” and style as desired.
Activity: Bucket of Spuds

Plant a potato in a large bucket and you should get a bucketful in about 4 months. Early spring or fall is the best time to plant. Choose a potato with lots of eyes. These are buds that will begin to sprout if the potato is left in a light airy place.

Materials:
- A large container
- A potato
- Soil
- Compost

2. Make a hole in the soil large enough to take the potato. Leave the two strongest shoots on and rub off the rest. Bury the potato.
3. In 3 or 4 weeks when green shoots appear above the ground, add just enough soil to cover them again. This makes the stem push upward while little potatoes form below the ground.
4. Keep covering the plant until the bucket is full. Keep the soil damp.
5. When the plant flowers, it’s a sign that things are happening underground. When the flowers die, stop watering. Potatoes will have formed and wetness might make them rot. When the whole plant dies, tip the soil out and see how many potatoes you grew!
6. A neat snack to offer the children to discuss soils is the “Yucky Dirt” activity. Imagine being invaded by what you cannot see. Zillions of tiny, invisible creatures live in the soil. These “good guys” that the farmers love are recycling like crazy, breaking up soil into useful nutrients, making it easier for plants to grow. In this activity students will have a chance to look for the invaders in the soil using some tools of science and then enjoy eating some of their own dirt (cake).

✿ Activity: Yucky Dirt

Materials:
- Trowels for digging
- Can or containers to hold soil
- Small clear cups for holding individual amounts
- An insect guide and a spider guide—preferably with pictures
- Magnifying glasses
- Microscope
- Science journals

1. Send students outside in teams to dig a small amount of soil, a 4x4x2-inch core. Send teams to different sites for a basis for comparison.

2. Examine the soil samples using the naked eye, a hand-held lens, and a microscope. What do you find? Record, share and draw your observations.

3. Make the Yucky Dirt Cake and eat it!
Yucky Dirt Cake

1 8-ounce package cream
1 cup powdered sugar
2 3-ounce packages instant vanilla pudding
1 pound chocolate sandwich cookies
1 8-ounce container whipped topping
Gummy worms
Glass bowl and serving spoons

Step 1: In a medium-sized bowl, mix together cream cheese, sugar and pudding.
Step 2: Fold crushed cookies into whipped topping container.
Step 3: Layer mixture in 9-ounce plastic cups starting and ending with cookie mixture. For added fun, put gummy worms in the layers. If you prefer, use a large glass bowl to layer the cake and arrange the worms so they can be seen or line a flower-pot with plastic wrap, layer your cake, and “plant” plastic flowers in the top.

Give each team one task related to the recipe:

Team 1: Mix ingredients of Step 1.

Team 2: Crush the cookies and mix with the whipped topping.

Team 3: Prepare individual servings in 9-ounce plastic cups hiding the gummy worms as they wish.
7. On a nice day the group could also go outside. Follow the simple steps of an Ant Watching Adventure.

Activity: Let’s go Ant Watching!

Materials:
- Sugar in small plastic bags
- Glass see in small plastic bags
- Bacon bits in small plastic bags
- Magnifying glasses

Ask: Have you ever paid attention to what ants do? Ants live in families with thousands of relatives in one ant nest. All these ants have the same mother. Every ant in the nest has chores such as taking care of the babies, cleaning the next, or going out to get food. In this activity, you will see how ant chores actually help farmers.

1. Look around outside for ants. Take note of what they do.

2. Scatter a few grains of sugar in the ants’ path. Record how the ants respond.

3. Locate an ant’s nest. It usually looks like a mound of sand an opening at the top. Scatter a few grains of sugar at the opening of the ants’ nest. Again, write down what happens. Be careful if you are watching a fire ant nest. They are very aggressive and can give painful bites.

4. Scatter a little grass seed or a few bits of bacon by the ant nest. Note their response.

5. Watch the ants through a magnifying glass as they leave and come back to the nest. Observe what they carry and how they carry things. What happens if another insect goes near the opening of the nest?
6. Follow some ants as they go about their work. Do they seem to take a regular route? When two ants meet, what do they do? Do they ever bump into each other? What happens if they meet another insect?
BIRDS, TREES AND BEES—OH MY!
Trees and wildlife

Objectives:
1. Youth will learn about different wildlife in our communities.
2. Discuss methods to protect trees.
3. Identify organisms in nature that use camouflage.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. Take the group of youth outside and divide them into small groups. Give each group a small area of grass marked off by a piece of yarn. Have the youth observe different animals and plants in nature by completing “Circle of Earth.” Have the children discuss aloud what they saw in their circle.

🌟 Activity: Circle of Earth
Materials: 36 inches of string, an index card and pencil for each child.

Divide the group into teams of two. Give each team a string, index card and pencil. Show them how to place their string on the ground in the shape of a circle. Ask the teams to closely examine what is inside their circle of earth, and to record or draw what they see on the index card. Encourage the children to work together as a team. After the teams have had an opportunity to examine their circle of earth for at least five minutes, ask them to stop and discuss the following:

What kinds of thing did you find in your circle of earth?
Did you find natural things as well as man-made things?
Did you find any living things?
Do you think if you did this investigation during another season that you would find different things?

**Application:** Encourage the children to think about what they might find in a “circle of earth” the next time they go to the beach, help in the garden, or walk by a stream.

3. Do any of the organism blend into the surroundings? What is this method of hiding called? Camouflage is used by animals to protect themselves from predators. Can you name some predators?

**Activity: Birds and Worms**

**Materials:**
- 60 small objects in assorted colors (e.g. for inside—pipe cleaner segments, colored pieces of yarn, paper shapes, or punched holes; outside use biodegradable items such as colored pasta, beans, popcorn, or breakfast cereal) to represent the worms/bugs.
- A large piece of chart paper
- Crayons or markers
- Paper
- Pencils or pens
- Pictures of camouflaged animals

**Background:** Many animals are “color coordinated” with their surroundings. When viewed from below, a fish’s light-colored belly blends in with the sky. When viewed from above, the darker top blends in with the waters underneath. Any coloration, body shape, or behavior that helps an animal hide is called **camouflage**.

Blending in with the environment is a great way to avoid being eaten. Many predators are also camouflaged: the better to avoid being spotted by a potential meal. For example, a lion’s tawny coat matches the grasses of the African savannah and the leopard’s spots
match the patchy sunlight of the African forest.
Prepare for Birds and Worms:

Find one or more large open areas (indoors or outdoors) for doing the activity. Assemble 600 small, colored objects consisting of equal amounts of at least three colors. These will represent worms/bugs. Make sure you have at least one color that matches the playing surface (e.g. gray for asphalt, green for grass, or brown for carpet). You’ll need 20 each of three colors, 15 each of four colors, 12 each of five colors and so forth.

Scatter the worms/bugs (when students aren’t looking) throughout the area(s).

Doing the Activity:

1. Ask the group to name advantages that bullfrogs have because they’re green and polar bears have because they’re white. Ask students whether they know what it is called when animals blend in with their surroundings (camouflage). Have them give examples of how camouflage helps both predators and prey.

2. Divide the group into two to four teams with the same number of students in each team. Take everyone to the area where the worms/bugs are hidden. Tell students that they are hungry birds and various types of tasty animals are scattered here. Describe to them what the worms/bugs look like. Ask them to predict what color worm/bug might have the best camouflage for this environment.

3. Arrange the teams in relay race lines. Explain that the object of the race is to be the first team to get every bird fed. When you say, “Go!,” the first bird in each line should “fly” over the prescribed area and pick up the first worm/bug he/she sees. Each bird flies immediately back to the line and tags the next bird, who does the same thing. When the last bird returns everyone on the team should sit down. The first team to be seated wins.

SAFETY TIP: If you use food items, remind students not to eat them.
4. When all teams have completed the relay, spread a large piece of paper (at least poster size) on the ground. Make a chart with as many columns as there are students on each team. Each column will represent the students position in line. The students should each place their worm/bug in the column that corresponds to their position in line.

5. Have students count each color of worms/bugs in each column (e.g. 1st—4 reds, 2nd—3 reds and 1 green, and so on), and record on their papers. Is there a pattern to the order in which the worms/bugs were found? Does this pattern have any significance?

6. Have students take back their worm/bug. Turn the paper over and make columns that correspond to the different colors. Have students place their worm/bug in the appropriate color column. Have each student record the number of each color. What color was easiest to find? What color was hardest? What type of worm/bug has the best camouflage for this environment and why? Does that match what was predicted?

7. Have the teams line up again and repeat the game to find the remaining worms/bugs. Afterward, record the results in the same two ways as before, and discuss the results.

8. Before leaving the game area, make sure students have recovered all of the worm/bugs.

9. Back in the classroom, have students help you record data from both rounds in tables drawn on the board. Older students can create bar graphs to represent the information. Help students interpret the graphs.

4. While outside talk to the children about larger plants in nature. Have the children complete the activity “Leaf Rubbings” on the “Beautreeful” handout.

Activity: Leaf Rubbings (5-7 minutes)
Materials: A variety of leaves, BeauTREEful handout, crayons.
Show the children the different kinds of leaves and talk about the kind of tree that each leaf comes from. Point out the shapes and colors. Let the children examine the leaves and feel the veins. Explain that the veins help the leaves get water so that they can grow. Demonstrate how to do a leaf print. Place the leaf on the table vein side up. Put the paper over it and use the side of a crayon to color over the leaf. Encourage the children to use different leaves and colors, and to overlap the leaves for a special effect.

NOTE: Have the children make extra rubbings to use in the Art Exhibit and Cloverbud Display lessons in the subject of Community Expressive Arts.

**Application:** Ask the children to look at the different kinds of trees and leaves found around their homes.
5. Bring the group back inside and complete the “Trees are Tree-mendous” puzzle along with the “Protecting Our Forest Treasures.” Discuss with youth how we can protect trees and plants in our environment. Ask: “Who can tell me what recycling is?”

6. Have the group complete the “cycling Back to Nature” activity and discuss the benefits of recycling. Discuss methods the club could practice recycling in the community.

**Activity: Cycling Back to Nature**

**Materials:**
- Newspaper cut in strips 2 inches wide
- Scissors
- Pencil
- Tape
- Ruler

1. Give materials to each student and give directions while demonstrating the process of making a Mobius loop.
   - **A.** Hold the ends of one strip of newspaper, twist it once, then join the ends. Overlap the ends exactly 1/4-inch and tape the ends in place on both sides.
   - **B.** Cut lengthwise down the center of the strip. The result will be a single loop but twice as long as the original. Cut down the center of this loop again and end up with two loops.

2. Take a second strip of newspaper. Twist and overlap the ends to make another Mobius Loop. Draw a pencil line down the center. Cover all the surface of the paper and end up at the beginning point.

3. Make a third Mobius Loop. This time cut the strip about 1/3 of the distance from the edge, instead of at the halfway point. Cut the entire strip, keeping the same distance from the edge. The result-
Trees are TREE-mendous!

You’ll see 8 things trees give us when you do this puzzle. Aren’t they tree-mendous?

Across
1. Wood from ash trees make great baseball_____.
2. We burn wood for — and heat.
3. — from trees is used to build our homes.
4. Thank a tree for your chewing —
5. Squirrels eat this type of food — from trees — and so do we!

Down
6. You write, fold, color and draw on this -- tree product —
7. Trees give off — we breathe.
8. We boil — from sugar maple trees to make pancake syrup.

Adapted from A Teacher’s Guide for Arbor Month, Minnesota Arbor Month Committee. Used with permission.
Protecting our forest treasures

How do people wound trees?

What happens to the tree?

What happens to the tree?

Adapted from A Teacher’s Guide for Arbor Month, Minnesota Arbor Month Committee. Used with permission.
ing figure is a loop twice as long as the original but there is a loop the same size as the original linked to the longer one.

4. Make another Mobius Loop. Before you tape the ends together, turn one end so that it makes a complete revolution (two twists).

5. Now cut the double Mobius down the center. You should get two loops the same length as the original but linked together. If you cut those loops down the center, you will end up with four loops all the same size as the original and all linked together.


Supplemental Activities
   ✿ Activity: Forests: We Need them

   ✿ Activity: Log Rolling
What part of the plant is a tree trunk? Tree Trunks are the stems of the plant that connect the roots to the leafy canopy, holding the leaves up where they can collect the energy of the sun that the plant needs. Plant detectives compare and contrast the role of stems in small and large plants by building a model forest, a simulation of a very large crop.

Materials:
   Newspaper
   Scissors
   Tape
Nature Mobile

Color, cut and glue two sections together, putting a string between the sections.

Hang and enjoy!

Birds and Insects Help Pollinate.
Forests: we need them!

How does wildlife use the forest?

How do people use the forest for fun and recreation?

What things in our homes and schools come from the forest?

Forest Puzzler
How would our lives be different if there were no forests?
Log Rolling (cont.)
1. Assign roles to each group member.
   - Newspaper rollers—everyone to begin the project
   - Art director—one student
   - Science consultant—one student
   - Root and stem shapers—one or two students
   - Tape and construction—one or two students

2. Create a forest out of newspaper rolls. Each group of five or six can begin by building one tree.
   - Take three sheets of newspaper and roll them diagonally from corner to corner overlapping to make a newspaper roll.
   - Construct a tree trunk (stem) by taping several rolls together. Stems will need a root system. What kind of a root system will keep it standing up?
   - Use more rolls and attaché multiple branches and eventually even leaves. The end result will be bigger than student-size.

✿ Activity: Recycled Greeting Cards
Materials: Old greeting cards, scissors, rubber cement or glue, construction paper, and markers.

Spread the cards and other supplies on the table. Explain that each child will get to make and decorate their own greeting card. Have them select a card, cut the front off and glue it to the front of a folded piece of construction paper. The markers can be used to add decorative borers or to include a sentiment inside the card. When they are finished they will have a one-of-a-kind card to send to a family member or special friend.

NOTE: Have the children make extra cards to sue in the Art Exhibit and Cloverbud Display lesson in the subject area of Community Expressive Arts.
### NATURE SCAVENGER HUNT

**CHECKLIST**

- [ ] squirrel or chipmunk
- [ ] bird’s nest
- [ ] spider web
- [ ] water
- [ ] pinecone
- [ ] acorn
- [ ] feather
- [ ] worm
- [ ] crawling insect
- [ ] ant hill
- [ ] flower
- [ ] flying insect
- [ ] seeds
- [ ] large bird
- [ ] small bird
Materials: Scavenger hunt check list, pencil

Show the children the scavenger hunt checklist. Tell them they are going on a special kind of scavenger hunt—a nature scavenger hunt. They will need to find many items, but they will not collect them. When they find them, they are to check them off on their lists. Have the children work in pairs. Give them the checklists and let the hunt begin! After they have searched for at least five minutes, gather them together and see how many things were discovered.

**Application:** Ask the children to look for natural items in their own backyard, or on a walk around the block or down the road with a friend. How many items can they find?

★ Activity: Can You Find It? (9-10 minutes)

 materials: Reproduced “Can You Find It?” puzzle for each child, pencil.
Can You Find It?

Look from left to right and up and down to see if you find these recycling words:

<table>
<thead>
<tr>
<th>Aluminum</th>
<th>Paper</th>
<th>Recycle</th>
<th>Earth</th>
<th>Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse</td>
<td>Glass</td>
<td>Reduce</td>
<td>Trash</td>
<td></td>
</tr>
</tbody>
</table>

G   R   E   C   Y   C   L   E
L   P   A   P   E   R   A   J
A   L   U   M   I   N   U   M
S   A   R   E   D   U   C   E
S   S   E   B   I   L   K   D
E   T   U   T   R   A   S   H
C   I   S   H   N   O   P   M
F   C   E   A   R   T   H   G
WONDERFUL WEATHER

Water Cycle and Our Environment

Objectives:
1. Discuss the water cycle.
2. Discuss methods to prevent pollution.
3. Identify types of weather.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. Start by having the group color the “Water Words” hand-out. Discuss with the youth the different stages of the water cycle.

✵ Activity: The Rain Cycle (4-6 minutes)
Materials:
- Large clear glass baking dish
- Rubber band
- Plastic wrap
- Boiling water

Ask the children what they think happens to the rain after it falls. Demonstrate the rain cycle by carefully boiling water into the baking dish. Quickly cover the dish with plastic wrap and secure it with a rubber band. Ask the children to observe what happens as the water evaporates and forms droplets on the plastic wrap. Eventually the droplets will fall back down into the dish when they cool. Explain that this is how the rain cycle works on our earth. When it rains, the rain falls, it evaporates, and after a while it falls again. The cycle repeats over and over. When the rain falls on pollutants (smoke, exhaust, etc) it collects tiny pieces of them and the rain becomes polluted.

Application: Ask the children to look at the sidewalk after a rain. The sidewalk is wet for awhile but eventually “dries off.” That’s evaporation!
Water Words
Write each word in its right space.

Word Bank:
- lake
- precipitation
- river
- evaporation
- cloud
- well
- aquifer

What are some of the ways you use the water from each of these places?
3. Discuss the different types of weather which bring water back to the soil from the clouds. Ask: “What are different types of weather? What type of weather are we having today?” Use the “weather log” for the 4-H’ers to track the weather patterns for a week in their community. Create rain gauges with the youth. Use the “Measuring Rain and Snow” activity to construct measuring devices the children make and decorate to use at home.
**My Weather Log**

Check the weather every day for a week and draw pictures of what you see. Do it at about the same time every day.

<table>
<thead>
<tr>
<th>SUNDAY</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
<th>SATURDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME</td>
<td>TEMP.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What was the most common weather this week? __________
What was the highest temperature? ______ The lowest? ____

Just imagine! What would it be like if the weather was exactly the same every day of the year? Pick one kind of weather: hot and sunny, snowy, rainy, stormy, and pretend the weather has been exactly like this every day for a whole year. How would your life be different? How would it affect holidays? Outdoor playtime? Turn your page over and write or draw about it.
4. Read to the youth the story “How Grandmother Spider Stole the Sun.” Discuss with the group how this applies to the water cycle and the sun. Or complete the “Moonbeams” activity.

How Grandmother Spider Stole the Sun
A tale from the Muskogee (Creek) Indians

When the Earth was first made, there was no light. It was very hard for the animals and the people in the darkness. Finally, the animals decided to do something about it.

“I have heard there is something called the Sun,” said the Bear. “It is kept on the other side of the world, but the people there will not share it. Perhaps we can steal a piece of it.” All the animals agreed that it was a good idea, but who would be the one to steal the Sun? The Fox was the first to try. He sneaked into the place where the Sun was kept. He waited until no one was looking. Then he grabbed a piece of it in his mouth and ran. But the Sun was so hot it burned his mouth and he dropped it. To this day all foxes have black mouths because the first fox burned his carrying the Sun.

The Possum tried next. In those days Possum had a very bushy tail. She crept up to the place where the Sun was kept, broke off a piece, and hit it in her tail. Then she began to run, bring the Sun back to the animals and to the people. But the Sun was so hot it burned off all the hair on her tail. To this day all possums have bare tails because the Sun burned away the hair on that first possum. Then Grandmother Spider tried. Instead of trying to hold the Sun herself, she wove a bag out of her webbing. She put the piece of the Sun into her bag and carried it back with her. Now the question was where to put the Sun.

Grandmother Spider told them, “The Sun should be up high in the sky. Then everyone will be able to see it and benefit from its light.”
All the animals agreed, but none of them could reach up high enough. Even if they carried it to the top of the tallest tree, that would not be high enough for everyone on the Earth to see the Sun. Then they decided to have one of the birds carry the Sun up to the top of the sky. Everyone knew the Buzzard could fly the highest so he was chosen.

Buzzard place the Sun on top of his head, where his feathers were the thickest, for the Sun was still very hot, even inside Grandmother Spider’s bag. He began to fly, up and up toward the top of the sky. As he flew, the Sun grew hotter. Up and up he went, higher and higher, and the Sun grew hotter and hotter still. Now the Sun was burning through Grandmother Spider’s bag, but the Buzzard still kept flying up toward the top of the sky. Up and up he went the Sun grew hotter. Now it was burning away the feathers on top of his head but he continued on. Now all of his feathers were gone, but he flew higher. Now it was turning the bare skin of his head all red, but he continued to fly. He flew until he reached the top of the sky, and there he placed the Sun where it would give light to everyone.

Because he carried the Sun to the top of the sky, Buzzard was honored by all the birds and animals. Though his head his naked and ugly because he was burned carrying the Sun, he is still the highest flyer of all, and he can be seen circling the Sun to this day. And because Grandmother Spider brought the Sun in her bag of webbing, at times the Sun makes rays across the sky that are shaped like the rays in Grandmother Spiders’ web and it remind everyone of what Grandmother Spider did for the animals and the People.

This story is reprinted from Keepers of the Earth by Michael J. Caduto and Joseph Bruchac
Moonbeams

Each month the moon completes one orbit around the earth. This is called the synodic month, or the moon's phases.

How does it look from the earth? In each box, draw how the moon looks during its four phases.

New

1st Quarter

Full

3rd Quarter

Try this: Check the Old Farmer's Almanac magazine for things to look for in the sky.
5. Discuss with the group how pollution can be moved in our water and through the air affecting many areas of the environment. As a group, have the youth create a list of harmful items which cause pollution using the “Yuk” sheet and the “Environment Express” questionnaire.

Supplemental Activities may include:

① “Time On Your Hands” Activity

② “Wet Wonder Quiz” handout

③ Activity: Oil Spill

Materials
Baking dish  Cooking oil
Small milk carton  water
Paper towels  feathers
Pinecones

Oil spills can be a serious problem to shorelines, plants, and the animals that live near them. Demonstrate how an oil spill happens. Fill the milk carton with cooking oil. This will be an “oil tanker.” Put it in the baking pan filled with water. The water will represent the ocean. Puncture the “tanker” at the bottom so the oil drains out. What happens? Does the oil mix with the water? Put pinecones and feathers in the water. These will represent plants and animals. What happens to them? Have the children try to clean them off with paper towels. Can they be cleaned? Ask the children to imagine thousands of gallons of black oil along the shoreline. What might the consequences be?

Application: Encourage the children to look for news items in the paper or on television that focus on pollution.
Think of things that can harm our environment. Write words that start with each letter of this word... a **Big** problem to our environment!
Environment Express

Is your family helping the environment? Check your answers below.

My family is on the right track!

We recycle:
Yes ☐ No ☐

We walk or bike when we can:
Yes ☐ No ☐

We turn off unnecessary lights:
Yes ☐ No ☐

We compost our kitchen scraps:
Yes ☐ No ☐

We conserve water:
Yes ☐ No ☐

We have planted trees:
Yes ☐ No ☐

We feed the birds:
Yes ☐ No ☐

We keep our heat down:
Yes ☐ No ☐

We have a litterbag in our car:
Yes ☐ No ☐

What else does your family do for Planet Earth?
Time on your hands?

You can make this sundial to use anywhere! It will tell you the approximate time of morning and afternoon.

You need:
- A stick or pencil
- Your two hands
- A sunny place outdoors

You Do:

1. Go outside on a sunny day.
2. Hold the stick or pencil between your thumb and first finger. Hold your palm out flat so you can see the stick's shadow. Tilt the stick so its shadow stretches to your fingertips.
3. In the morning, hold the stick in your left hand. Point your fingers west and the stick will point north. Go out every hour. Where is the stick's shadow each time? Notice what time the clock says each time you check the shadow.
4. In the afternoon, hold the stick in your right hand. Point your fingers east and the stick should point north. Watch the shadow change as the hours go by.

Would this project work on a cloudy day?
Wet Wonder Quiz

How many answers do you know? How many can you guess? Try the quiz on someone else!

True  False

1. We don't have to worry about water. There will always be more.

2. A dinosaur could have walked in some of the water you drank today.

3. You'll drink enough water in your lifetime to fill over 300 bathtubs.

4. Industries use lots of water to make their products. How much water is used to make the steel for just one car?
   A. 100 Gallons
   B. 40,000 Gallons
   C. One million Gallons

Almost impossible to make it clean again.

2. It's true. Most of this water can be cleaned up and used over again.

3. False. Industries use large amounts of water.

4. False. Water is not destroyed, but it can get polluted.

Some areas, scarce water is important, so we can't run short in more areas.

If was millions of years ago, but there are more people using more water than ever before. Fresh water is running short in more areas.

Answers
Activity: Role Playing

Materials: none

Ask the children to pretend that they are a bee, flower, butterfly or bird. The environment they live in is slowly becoming more and more polluted. Tell them to imagine that they can talk. Ask each child what they would say to the people on earth to convince them to be kinder to the earth and to those many things that live in its environment.
ALL ABOUT ANIMALS
Animal Science

Objectives:
1. Discuss different types of animal and that habitats.
2. Discuss how animals move.
3. Identify how genes play a role in characteristics.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
3. Because animal move around, how are we able to work with them? Complete “Flapping Chickens.”

🌈 Activity: Flapping Chickens
Materials: one bathroom scale per small group of students

How can a farmer weigh a chicken? You can put the chicken on a bathroom scale, but when it flaps its wings, the weight changes! How can you get the proper weight of a flapping chicken? Understanding the physics of pressure will help to get the chicken’s correct weight.

1. Explain the problem presented in the introduction. Simulate the problem using a student and a scale. The student should stand on the scale with arms held straight out. Before you check the actual results, predict the results in each of the following situations:
Animals on the move!

How many animals can you list that move each of these ways? Write their names in the chart.

<table>
<thead>
<tr>
<th>Swim</th>
<th>Jump</th>
<th>Hop</th>
<th>Slither</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Run</th>
<th>Crawl</th>
<th>Fly</th>
<th>Walk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Act out the animals you listed. See if your family can guess them all!
A Get-up to "Giddy up"

with this costume you and a friend can be a horse together.

You need:
- 2 strong paper grocery bags for the horse's head.
- 1 grocery bag for the mane, tail, and ears.
- scissors
- tape
- paint and brushes
- a large square of cloth for horse's body
- safety pins

You Do:

1. Cut a slit in the square of cloth long enough to go around the middle of the person standing in front. Safety pins help you to get a perfect fit.

2. Make the horse's head like this:
   - cut a lookout hole in each bag.
   - Head
   - Nose
   - Ears
   - Mane
   - Tail
   - Tape the nose bag in place. Then add ears and mane. The lookout hole is under the chin.

3. Paint the head and body.

4. Wear horse-colored pants and shoes to complete your costume!

One of you bends over and holds onto the waist of the other standing in front.
A. Does the scale read more, less, or the same at the instant you flap your arms quickly upward in the air?

B. Does the scale read more, less, or the same at the instant you flap your arms quickly downward?

C. Imagine this situation: you jump off the roof with the scale strapped to your feet. Does the scale read more, less, or the same amount as you are falling from the roof? (do not try this!)

3. Teams of students should give explanations for the results in each of the situations. Since you cannot test C, how can you predict the answer? Can you imagine a simulation that could test this idea?

4. How can the farmer get the proper weight for his chicken?

4. Say/Discuss the differences in how we look. Animals are the same way. All animals do not look alike. We said before that some animals use camouflage to hide, for example. Complete "Who Am I" and identify the animal by putting together the pieces of the puzzle. Paste the pictures together and have the youth color the picture.

5. “Let’s be creative and create our own animals. Use the “create a Critter” sheet and work in pairs to create your own animal. Discuss where it lives, what it eats, etc.”

6. Genes are the tiny molecules inside us that make us look like our parents. Genes are passed from parents to children. Complete the “Pick The Parents” sheet. Have the children match the animals to the parents who they believe look like the puppies. After completing the activity, the group can use "What’s In the Genes" to identify which genes were passed from the parents of Bill and Bob.

Supplemental Activities:
Livestock Café
Down The Hatch
Meet My Pet
Clues:
I am a good hunter. I have soft padded toes so I can quietly sneak up on animals. Hidden in my toes are sharp claws to catch meals. I have sharp, strong teeth for biting and chewing meat. I am a good swimmer. I live and hunt alone and have almost no enemies.

1. Read the clues above.
2. Cut out the puzzle squares.
3. Arrange the squares to create the animal that is the answer to the riddle.
4. Glue the pieces on another sheet of paper.
5. Color it and make its sound!
Create-a-Critter
Make up a brand new creature. Decide the details by finishing the sentences below. Help it be a good survivor!

My name is _______.

I live in _______.

I eat _______.

I sleep in _______.

I move like this: _______.

I sound like this: _______.

My enemies are: _______.

I defend myself by: _______.

Draw a picture of your creation here.
Pick the parents

Look at ears, tails, face shapes and bodies. Draw lines from each puppy to its parents. Tell why you made these choices.
What’s in the genes?

Bill and Bob are twins. They look alike, but wait—there’s more!

Check (√) the things about Bill and Bob that were decided by genes. Finish the picture by drawing clues to help their friends tell them apart.

About Bill
- Red hair
- Likes soccer
- Likes short hair
- Blue eyes
- 4 feet tall
- Likes bananas
- Messy

About Bob
- Red hair
- Likes baseball
- Likes long hair
- Blue eyes
- 4 feet tall
- Likes apples
- Neat
Livestock Cafe

Each hungry animal is checking its menu for tasty treats. But wait... there's a mixup!! Unscramble the letters and help each animal find its favorite foods.

Sheep
- any
- raonti
- argss
- teaur

Horse
- artoin
- toas
- yah
- tewar
- rasg

Pig
- ronc
- rtoina
- wtrea

Goat
- tiona
- srags
- tewar

Cattle
- ligase
- ragss
- yha
- toinra
- taerw

Mystery Word: "Ration"
These ground-up grain mixtures are different for each animal. It all depends on what the animal needs for good nutrition and health.

Word Bank
- hay
- silage
- oats
- corn
- water
- grass
- ration

What did every animal need?
Down the hatch!

Gows are "udderly" delightful!

Make lines to show the cow's food path:

1. Green mouth to reticulum
2. Red reticulum back to mouth
3. Blue omasum
4. Brown abomasum
5. Yellow small intestine

Grass
Meet my pet

Write about your pet. If you have no pet, pretend!

Draw or paste a picture of your pet here.

My pet's name is ___________. It is a ___________
I got my pet from __________________________. My pet's birthday is ___________. Its age is ___________
My pet can do these tricks: __________________________________________
.................................................................................................
I keep my pet neat and tidy by __________________________________________________________________________
I feed my pet ______________________________________________________________________________________
My pet's bed is a __________________________________________________________________________________
My pet loves to ___________________________________________________________________________________
NUTRITION FOR EVERYONE
Nutrition Education

Objectives:
1. Identify safe practices in the kitchen.
2. Discuss healthy food choices.
3. Identify methods for cooking.
4. Develop healthy snacks.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. Ask, “Where do we prepare our meals?” Using “Kitchen Safety” have the youth circle the items which are unsafe in the picture. Discuss what the items are and how you could make the kitchen safer.
3. “Pack it Safe” and “Now You’re Cooking.”
4. Discuss the differences in the different types of snacks we consume. Ask the group what makes a healthy snack. Complete “Favorite Food Facts Finders” and “Snack Attack.”
5. “Good Eating” hand-out.

Activity: “Recipes” sheet.
Kitchen Safety

There are 20 unsafe things in this picture. Circle the things that are wrong. Tell why.

Do you have any of these habits in your kitchen? List the things you will change about your own safety habits.
Pack it safe!

Safe food starts in the kitchen. Follow these tips and take safe food to school or on picnics. Draw a line to the reason why each tip keeps your food fresh and safe.

Good tips:

- If you take juice in a carton, freeze it overnight.
- Wash your lunch box every night with hot soap and water.
- Avoid sandwich fillings made with mayonnaise.
- When you have something hot in a thermos, keep the stopper on until ready to eat.

Here’s why:

- This kills germs and keeps them from growing.
- Frozen foods can help keep your whole lunch cool and safe.
- Cool air that gets inside can lower the temperature and germs can grow.
- This is made from eggs. Germs can quickly grow, causing you to get sick.

Turn this over and draw your favorite lunch!
Outdoor Cookery

"Now You're Cookin'!"

You could use all but two of these things to cook over a fire. Draw or write about what you would cook in each. Cross out the two things that would be unsafe to use. Tell why.
**Favorite Food Facts Finder**

Why do you choose your favorite foods? List your top 6 favorites on the chart. Then answer these questions by marking spaces in the chart.

1. Put a ☺ by the two foods you like best of all.
2. When do you eat those 6 favorites? Mark S= Summer, F= Fall, W= Winter, SP= Spring, A= All year long.
3. Do you think this food is healthy for you? Mark Y= yes, N= no.
4. What is the food made from?
5. Is any food a new favorite that you wouldn't have picked 2 years ago? Check (✓)
6. What do you like best - the food’s taste, feel, shape… or what?

<table>
<thead>
<tr>
<th></th>
<th>Top Two</th>
<th>Season</th>
<th>Healthy</th>
<th>Made From</th>
<th>New</th>
<th>Taste/Feel/Shape…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>☺</td>
<td>A</td>
<td>N</td>
<td>potatoes</td>
<td>✅</td>
<td>taste</td>
</tr>
<tr>
<td>2</td>
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</table>

If you asked your parents their favorite foods, would they pick the same foods you did?
Snack Attack!

Does your school invite you to bring a snack to eat at break time? A snack can be good for you. How?

Circle the foods below that you think would be good choices. Tell why.
Good Eating

The Big Four

1. Eat a variety of foods every day.
2. Make a checkmark for each daily serving from each food group.
3. Count your servings from the Basic Four each day. Pick foods that add up to good eating.

<table>
<thead>
<tr>
<th>MILK</th>
<th>MEAT</th>
<th>FRUIT and VEGETABLE</th>
<th>GRAIN</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
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</table>

**Others**

Don't Overdo!

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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Cut out this handy placemat. Keep it on your table and check off your good eating habits for a week.

Name:
Let's find out!

1. Why do runners eat pasta or carbohydrates before a long race?

2. What foods do you eat for quick energy?

3. What foods help you feel settled down, calm, relaxed, or sleepy?

4. What foods do you eat to help settle an upset stomach?

Food is for fitness, fun and health!
Fun and Fitness!

How do you exercise to stay healthy? (Running, riding a bike, playing sports all count!)

Use this chart to list the ways you exercise for one week.

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</table>

Which exercise was the most fun? ___ Tell why.

Count the checks. _____ Add 5 bonus points if you exercised every day. _____

Total: _____

- A score of 10-14 is GOOD!
- Over 15 is SUPER
- Over 20 is Out of Sight!
**Hobo Dinner**

1. Place ground beef patty in the center of a large square of aluminum foil. Place 1/2 cup of potatoes and 1/2 cup of green snap beans or carrots around each patty. Season with salt and pepper. Add a pat of butter.
2. Fold and shape foil into a package around the food. Seal well with a tight double fold.
3. Cook over a medium hot fire for about 45 minutes. Turn foil packet once during cooking time.
4. Serve in the opened foil packet. No dishes to wash!

**Banana Boats**

1. Peel back a long strip of banana peel on the inside of the curve, leaving one end attached to the banana.
2. Scoop out some of the banana. Fill the space with marshmallow and pieces of candy bar. (You can add raisins if you like!)
3. Replace the strip of peeling.
4. Bake in the embers (about 15 to 20 minutes) until banana, chocolate and marshmallow are melted and blended. Banana boats may be wrapped in foil for baking in the oven.
**Food Fun**

**Ants on a log**
- raisins (ants)
- peanut butter
- celery

**Ambrosia**
- oranges
- coconut
- bananas
- maraschino cherries

Peel and section the oranges, then slice into smaller pieces. Put in bowl. Gently stir in sliced bananas and cherries. Add coconut, and enjoy!

**Animal face sandwich**
- 1 slice bread (head)
- sandwich meat (face)
- green olives (eyes)
- black olives (nose)
- 1/2 cherry tomato (mouth)
- shoe string potatoes (whiskers)

**Happy face snack**
- 1/2 apple (head)
- raisins (eyes)
- cherry (nose)
- peanuts (mouth)

Use peanut butter to keep the face in place.

**Haystacks**
- chow mein noodles
- butterscotch chips
- peanuts

Melt butterscotch chips. Stir in chow mein noodles and add peanuts. Cool on wax paper.
Activity: Buggy Snacks

Materials:
Recipes and ingredients for each snack students decide to prepare
Amount of food depends on the number of students
Poster board and markers for advertisement

Inchworms

Recipe: Cut a thin slice of Swiss cheese about 1½ inches wide by 3 inches long for the feet. Cut notches into both long side to form feet. Place the three smaller grapes in a row on the cheese feet. Poke two holes in a larger grape where he antennas should go. Cut two slivers of carrots and stick in hole to form antennas. You may want to use toothpicks to keep the grapes together if you are making these for older children.

Facts: An inchworm is a type of caterpillar. The caterpillar is a rich source of iron, copper, zinc, thiamin, vitamin B, and riboflavine (B2); 100 grams of cooked insect provides more than 100% of the daily requirement of each of these minerals and vitamins. Caterpillars are edible but the smooth ones are best.

Ants-on-a-log

Recipe: Slice stalks of celery, and spread peanut butter in the groove. Sprinkle with black raisins. Variation: Sunflower seeds make aphids-on-a-log, currants—gnats-on-a-log.

Facts: Movie theaters in South America sell roasted ants as snacks instead of popcorn. Certain tribes on Native Americans produced a flavorful honey-ant wine. Ants have a vinegar flavor because they're loaded with formic acid, a chemical similar to the acetic acid in vinegar.

Butterfly/Moth Snacks

Recipe: Use pretzels as butterfly wing frames and stick them together with softened caramel candy or peanut butter. Sprinkle chocolate chips on top.

Facts: Moth that you find flying around your lights are edible and taste pretty good—a little bit like almonds. Prepare as with other insects. Moth larvae provides about 265 calories per 100 grams. They are about 63% protein and 15% fat. Unfortunately, it takes a lot of moths to make a pound.
Activity: Ice Cream in a Bag

Materials:

1 gallon reseal-able plastic bag (heavy duty freezer bag)
1 quart reseal-able plastic bag
4 cups ice
1 cup ice cream salt or table salt
1 tablespoon sugar
1/2 cup 18% light whipping cream
1/2 teaspoon vanilla extract OR 1 tablespoon cocoa powder
Cups and spoons

1. Pour milk or cream, vanilla extract, and sugar into the small zipper bag. Squeeze as much air out as possible, mix well and seal the bag carefully.
2. Place the small zipper-type bag into the large bag. Cover with ice and salt. Seal the large bag tightly.
3. Shake, toss and flip the “ice cream machine” for 5 to 10 minutes. If the bag gets too cold to handle, wrap it with a towel or pass it from person to person. If the mixture hasn’t frozen after 10 minutes, add more salt and ice.
4. Open the larger bag and remove the smaller bag. Wipe the smaller bag thoroughly before opening it so the salty water does not contaminate the ice cream. The ice cream should be the consistency of soft serve ice cream. Eat right out of the bag or serve in small cups.

4-H-ers might want to wear mittens while they shake—the bag is COLD!

(See a video of making ice cream in a bag at http://www.kinderart.com/kitchen/v_icecream.shtml. The recipe amounts vary slightly.)
PURCHASING POWER
Consumer Science

Objectives:
1. Identify safe money management skills.
2. Discuss good saving practices.
3. Identify the best price.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. “Which Deal is Better?” and “Smart Shopping”
3. “My Suitcase” and “Clothes Alert”
4. “Let’s Have an Auction”

Activity: Let’s Have an Auction

Say: Have you ever been to an auction? Be a buyer and a seller! Make personal economic decisions and use money to buy something. Bring an item to sell and create an advertisement to try and get other people to buy it!

Materials:
Fake money for each student
Microphone
Items to auction

1. Ask students to bring an item for an auction. The item can be something that they have made or are willing to recycle. Discuss this idea: “One person’s trash is another person’s treasure.”
2. Give each student $4.00 in fake money to bid on items. They may continue to purchase items until their money is gone.
3. Present 15-second advertisements for five or six items and then auction them to keep everyone engaged in the process.
4. Collect money after each item is purchased so that students know how much they have to spend.
5. Complete the auction and return any items that were not purchased.

 ricerca: Tasty Testing

Practice being a careful consumer. How does appearance and taste impact your food choices? What else influences your decision about what you buy to eat?

Materials:
- Three to five different kinds of popcorn (or another product: milk, crackers, cheese, apples, or grapes)
- Small cups for samples
- Chart paper to collect brainstorm criteria
- Sticky dots for voting

1. Explain that everyone acts as a consumer by making decisions. Decisions are influenced by a variety of criteria including appearance, taste, advertising and cost.
2. Brainstorm a list of criteria that would make good popcorn (kernel type, color, small number of unpopped kernels, taste, texture). Which criteria are the MOST important? Give each student 3 sticky dots to vote their choices.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kernel size</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Yellow color</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salty</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Crunchy texture</td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Buttery taste</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
3. Use the three top criteria to create a score sheet. Place one sheet beside each product to collect the scores (see sample). Let students taste test the popcorn and vote.

<table>
<thead>
<tr>
<th>Popcorn</th>
<th>Kernel size</th>
<th>Salty taste</th>
<th>Buttery taste</th>
<th>My favorite (check)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td></td>
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<td>#2</td>
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<td>#3</td>
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</table>

4. Divide students into interest areas to develop their own market tests.
   A. Prepare a graph showing the results
   B. Write a new advertising jingle for the winning product highlighting the criteria.
   C. Create a 30-second commercial highlighting the product and present it.
   D. Create a marketing plan: packaging, target audience
   E. Write an article and create artwork for a Consumer Report that explains the results of the market test. Make copies and distribute to other students.

❉ Supplemental Activities:
   Activity: Needs and Wants
   Materials:
   - Construction paper
   - Glue
   - Markers
   - Scissors
   - catalogs
   - grocery store ads
   - discount store ads
Give each child a piece of paper. Help them divide the paper in half and write “needs” at the top half and “wants” on the top of the other half. Let them cut out items and decide where to glue them.

**Application:** Encourage the children to be aware of television advertising. Ask them to decide if items advertised are needs or wants.

**Activity:** Finger play “A Shiny Penny” (4-6 minutes)

**Materials:** None

Ask the children to think about what “A penny saved is a penny earned” means. Encourage them to act out the following finger play:

**A Shiny Penny**

As I was looking on the ground (cup hand over eye, look around)
A shiny penny I soon found. (point to the ground)
I picked it up and what do you know? (pick up penny from ground)
I put it in my bank so it could grow. (cup fist, put penny in)
I added to it and in no time (put more pennies in fist)
It grew from one penny into a dime! (hold one finger up, then all ten)

Talk about the importance of saving and not letting money “burn a hole in your pocket!”

**Application:** Ask the children to see if they have a piggy bank at home or savings account at a bank. Encourage them to “add to it.”
Which is a better deal?

Circle your answers

- Shirt $5.00
- Shirt and socks $5.00

Why?

- 8¢
- 10¢

Why?

- 75¢
- 85¢

Why?

- $1.29
- $1.29

Why?

- Meal deal! $1.50
- 50¢

Why?

- 95¢
- $1.00

Tell about a time you were a smart shopper!
Smart Shopping

You need:
- scissors
- glue
- paper
- pencil or marker
- newspaper
- grocery ads

You do:

1. Choose your favorite foods in the food ads.
2. Cut out the pictures of the food, or just the names.
3. Glue them onto paper. Write down the prices next to each item. Put the name of the store at the top of your paper.
4. Find your favorite foods at the supermarket when you shop with Mom or Dad.
   1. Is it ok with your parents to buy some of these foods?
   2. Compare prices. Are they the same as in the ad?
   3. Are the prices the same in every store? If not, why not?
My Suitcase

Draw what you need to put in your suitcase to go to Grandma's for two days in the summer.
Clothes Alert!

Color the 15 T-shirts in this room that are in places they don't belong.

Wash the shirts and hang to dry...

After the shirts are clean and dry, what should you do with them? Tell why.
GIVING ALL THE WAY
Community Service

Objective:
1. Identify methods to serve others
2. Discuss good community service practices.

Lesson Outline:
1. Have the group start by saying the 4-H Pledge and the American Pledge.
2. “Planning A Community Art Exhibit”

Activity: Planning a Community Art Exhibit
Objectives:
To appreciate and value artwork we create.
To understand the concept of “giving to the community”

Time Frame: This lesson is designed for a group meeting between 30 and 60 minutes.

Background:
Build community support for 4-H while generating pride and enthusiasm among your group of Cloverbuds by putting together an art exhibit of their own work. Ask a local bank, library, office building or nursing home if they would be willing to support the youngest members of 4-H by hosting an art exhibit. Emphasize that the exhibit does not need to be elaborate; 10-30 pieces of children’s art could easily decorate a lobby or hallway. Suggest that the exhibit could be displayed for a week or even a month. After getting permission to use a building for the display, Discuss the following to make this an enjoyable, productive and “hassle-free” event:
*set up dates for the exhibit
*set specific time to set up and take down
*ask if an opening night event would be possible
*check fire codes or other building regulations
*look at spaces to be used and agree on the method of mounting.

3. Making Cards: Veggie Ink

Materials: (per group of 2-3)
- 9-ounce plastic cup
- Dish or lid for ink
- 1/3 cup (80 ml) soybean oil
- 2 teaspoons granular soy lecithin
- 2 teaspoons Kool-Aid® powder (no sugar or artificial sweetener added) or powdered tempera paint
- Stir-sticks
- Paper (several sheet for printing project)
- Scissors
- Potato, linoleum block, Styrofoam block or “packing peas-nuts” for block printing.

1. To make soy ink:
   Blend 2 teaspoons granular soy lecithin with 1/3 cup vegetable oil (soy oil). Add pigment, the Koo-aid powder or tempera paint powder and blend.

2. To print with soy ink:
   A. Create small blocks for printing by using Styrofoam peanuts or carving a design into a potato or linole-um block.

Soy Ink

Soy ink has been used by newspapers, printers and magazine publishers since 1987. Having a thin layer of ink improves “drying,” thus decreasing smearing. The oil in the ink does not actually “dry.” It solidi-fies by reacting with oxygen in the air. The oxygen causes the oil to polymerize, trapping the pigment on the paper. Paint “dries” in a similar way.
B. Place a small amount of ink in a lid or shallow dish. Results are best when ink is used sparingly.
C. Print designs on sheets of paper to create stationery, cards, wrapping paper, etc.

4. Decorating Sugar cookies

Materials:
- Several dozen heart-shaped sugar cookies (baked ahead)
- Canned white frosting
- Red food color
- Red decorator sugar
- Mixing bowl
- Spatula
- Wax paper
- Plastic knives
- Air-tight container or air-tight sealable plastic bags

Ask the children to wash their hands before beginning. Show the children the icing. Have them help you empty the container into the bowl. Ask if anyone has ever colored icing before. Let them decide how many drops of food coloring to put in. Count out loud as you put the drops in. Before icing the cookies, ask the children to remember to keep their hands clean. Ask how they think they can do this. (Remind them to keep their hands out of their mouth if it is not mentioned). Tell the children they can ice a cookie for themselves after the rest are done. Give each child a piece of wax paper that measures approximately 18”, several cookies, and a plastic knife. Drop several spoonfuls of icing on the corner of their paper and let them ice the cookies. Let them sprinkle red decorator sugar lightly on the iced cookies. Carefully package the cookies and save them for you visit to the nursing home. Let the children prepare for themselves—and for you—a cookie. Enjoy!
5. Making Thank You Notes for Donors

Grade level (K-2)

Materials:
- Construction paper
- Food stickers or stamps
- Markers

Explain the importance of thanking people. Help the children make simple thank you cards by writing the words “Thank You” and their signature on a 4 x 6” piece of construction paper. Encourage them to decorate the card with stickers and markers. Let them take them home and distribute them when they make their collections.

Application: Ask the children to think of times they received thank you’s from others.

6. Activity: Collecting Food

Grade Level: K—2

Materials:
- Pledge sheet
- Grocery bags
- Thank you cards
- An adult

Instruct the children to telephone their donors from home to let them know what they “owe,” and ask when it would be convenient to pick up the food. Encourage them to take an adult along to help with the collections. Store the food in a grocery bag until the next meeting.
Clover Adventures
Online Resources

Nutrition Education
www.mypyramid.gov
www.nutrition.gov
www.fruitsandveggiesmatter.gov

Arts & Crafts Projects
http://familyfun.go.com/arts-and-crafts/
http://www.amazingmoms.com/htm/kidsart.htm
http://www.squiglysplayhouse.com/ArtsAndCrafts/index.html

Environmental Science
Project Learning Tree - www.plt.org
Junior Master Gardeners "Kids Zone" - http://www.jmgkids.us/
USDA Forest Service - http://www.fs.fed.us/kids/

Animal Science
Embryology - http://4hembryology.psu.edu/teacherresourcen.html
Farm Animal Games & Songs - http://www.alphabet-soup.net/farm/farm.html

4-H Resources
Frederick County 4-H - http://frederick.umd.edu/4-h/index.cfm
Maryland 4-H - http://www.maryland4h.org/
4-H Mall - http://www.4-hmall.org/default.aspx
National 4-H Council - http://4-h.org/
4-H Volunteers USA - http://4-h.org/getinvolved/volunteer.html
The Great Frederick Fair - http://www.thegreatfrederickfair.com/