

Creation Station
Outdoor Classroom Council Symposium
October 12, 2007

“Outdoor Concentration – An Observation & Memory Game”

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Background:

Nuts - Nourish, new growth, evolution

Bolts - Lightning, natural purge, adaptation

Outdoors - Climate/weather, water, land, plants, animals, insects

Classroom - Observe, record, track, study, analyze, impacts, patterns, trends, cycles

Tools - Notes, calendars, pictures, charts, maps, measurements (rulers, scales, thermometers, graduated containers)

Materials:

3 x 5 Index Cards

Colored Markers

Hole Punch

Colored Yarn, Ribbon or String

Scissors

Preparation:

- Separate out 10 index cards for each student in the class
- Punch hole in one corner of each index card
- Cut one 8-inch long piece of string, ribbon or yarn for each student
- Each student writes their initials or identifying symbol on blank side of each of their 10 cards.
- Students assemble their 10 cards into a pack by threading ribbon through hole in corner and tying with a bow or loose knot. (Students will need to be able to untie and separate cards later).

Outdoor Observation:

- Assign each student an area of the school grounds outside the classroom.
- Emphasize that each student must stick to their designated area and work as individuals without conferring with each other.
- Students will have five-to-ten minutes to walk around outdoors observing the climate/weather, watershed, land/ground/soil, plants, animals, and insects in their assigned areas, and recording what they encounter.
- Instruct students to use only one or two words and record on the ruled side of each card a separate sight, sound, smell or sensation they encounter during their walk.
- Request students to fill out all 10 of their cards with 10 different observations before returning to the classroom.

Memory Game:

- Once indoors students gather around a common table.
- Students remove the ties from their card packets and place all 10 cards so that the words are face down on the table.
- Students take turns turning over two cards. (Versions of this game allow uncovering more than two cards to allow for time, attention span, etc.)
- If the words on both cards DO NOT describe the same observation, turn the cards back over and leave them on the table.
- If the words on both cards DO describe the same observations, put the cards aside, face up in separate stacks.
- Continue turning over cards in pairs (or more).
- As identical observations turn up, set those cards aside, either in new stacks or with stacks of cards that are the same.
- When no more similar/identical observations can be found, the game is over.

Extended Activity:

Track the identical observations that showed up in several areas of the grounds –

- Identify the different areas (based on the student ID on top of cards).
- Use **Tools for Outdoor Classrooms** to conduct more in-depth characterization of the **Nuts & Bolts** of those areas that have produced similar/identical observations.

Track the observations that were unique to each area of the grounds –

- Use **Tools for Outdoor Classrooms** to characterize make those areas special or different from the areas where duplicate observations were discovered.

Instructions for Making the Butterfly Life Cycle with Pasta on Paper Plates

Materials needed to make one:

¼ sheet of green construction paper

Small twig

1 - 8" paper plate

Scissors

Ruler

Fine markers (various colors for line drawing and adding details)

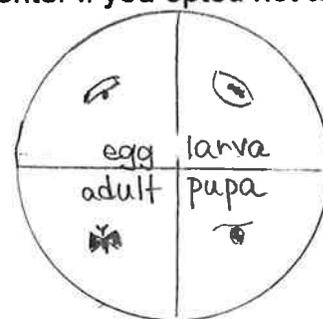
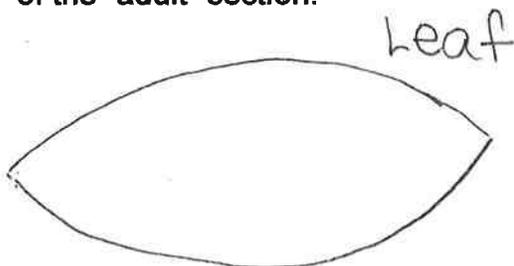
School glue

Q-tips for applying glue (optional)

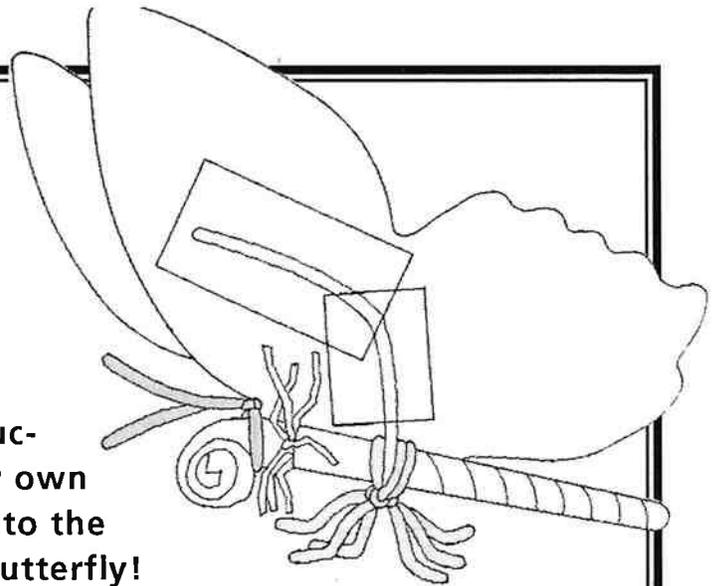
1- piece of each of these four types of pasta (orzo, rotini, shell (medium size), bowties)

Procedure:

1. Using the ruler and marker to draw the lines, divide your paper plate into quarters. You may find it easier to lightly fold the plate in half one way, then in half the other way to make the guide lines rather than measuring or guesstimating the place to draw your lines on the plate.
2. **Write the word "egg" in the top left-hand quarter near the center of the plate.** Following clockwise, write the word "larva" in the next quarter (right top), "pupa" in the next quarter (right bottom) and "adult" in the last quarter (left bottom). Clockwise directional arrows may be placed in-between these words.
3. Cut two leaf shapes from the ¼ sheet of green construction paper. A pattern is included below. Leaf veins designs can be added with a marker.
4. Fold the leaves in half along the center vein for 3-dimensional value and glue one side of one leaf in the center of the "egg" section of the plate so that half of the underside is showing. Glue the other leaf in the center of the "larva" section of the plate.
5. Glue the twig in the center of the "pupa" section of the plate.
6. You may color the pasta with markers. To resemble the Monarch butterfly: the orzo (egg) should be left uncolored, the rotini (larva) should be colored with yellow and black stripes, the shell (pupa) should be colored pale green the adult (bowtie) should be colored orange and black (refer to an actual photo for details)
7. You may draw the body of an adult butterfly in the center of the "adult" section of the plate. Keep in mind the size of the wings (bowtie pasta) if you choose to draw a body so they don't look disproportional. This is optional; the wings look great without the body drawn in!
8. Glue the "egg" (orzo pasta) to the underside of the folded leaf in the "egg" section, the "larva" (rotini pasta) onto the leaf in the "larva" section, the "pupa," rounded side forward, "hanging" from the twig in the "pupa" section, and the "adult" on the drawn butterfly body (or just in the center if you opted not to draw) of the "adult" section.



Create a Butterfly Kit



Follow the easy, illustrated instructions on the back to create your own unique butterfly. Then take it into the garden and “practice” being a butterfly!

Wings of Wonder

Butterfly wings are captivating things. As your students create and color the enclosed butterfly models, and observe real creatures in action, draw their attention to these splendid adaptations. They will likely notice distinct wing shapes, patterns, and colors. These serve different purposes: dodging predators (through camouflage, warning, or deception), finding and attracting mates, soaking up heat (dark colors), and so on.

When potential predators see the brilliant orange and black wings of the colorful **monarch**, most know to keep their distance. Why? They’ve learned from experience that those creatures are distasteful and downright toxic! Monarch caterpillars ingest toxins (that don’t harm them) when they feed on milkweed; these remain in their bodies even after they’ve become butterflies.

Have students locate the two large “eyespots” on each **buckeye** butterfly wing, color them blue, and ponder what protective purpose they might serve. (They resemble the eyes of a much bigger animal such as a bird, so they send would-be assailants packing!)

Can your youngsters guess how the shape of a **swallowtail’s** wing can thwart predators? Scientists believe that when the taillike appendage at the base of the wings moves, a passing bird can mistake it for an insect. Rather than nab a real meal, a frustrated aggressor ends up with just a bit of wing. (The swallowtail can get along fine without it!)

Fascinating Feeding Facts

Did you know that butterflies actually taste their food by standing on it? Their taste sensors are located in their feet and their sense of smell resides in their antennae. But it’s the hollow, straw-like proboscis (represented by a party blowout in this kit), that sips flower nectar and other liquids. When it’s not in use, it’s coiled up tightly. As a butterfly moves from flower to flower in search of nectar, it is dusted with pollen, which it inadvertently moves from one bloom to the next. Many flowers have adaptations to attract these pollinating plant partners. For instance, flat dense clusters of flowers enable the insect to perch in one place and move its proboscis among blossoms. (Pink, red, purple, and yellow blooms are butterflies’ favorites.) After observing which blooms different butterflies visit in your schoolyard, invite students to use their own butterfly creations to mimic the nectar-gathering journey. Do they pick up any pollen in the process?

Continued on back

Materials Provided in Kit:

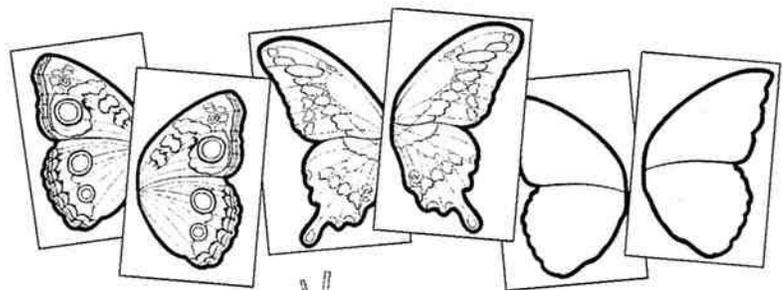
- 4 pairs of wing pattern templates (Monarch, Swallowtail, Buckeye, and a blank outline) for copying
- 25 party blowouts
- 25 white pipe cleaners
- 75 pipe cleaners in assorted colors
- Instructions

You will also need: Crayons, scissors, clear packing tape, a copy machine



Making Your Butterflies

1. Copy a set of wing pattern templates for each student.
2. Give each student one matching set of wing pattern templates, one white pipe cleaner, two colored pipe cleaners, and one party blowout.
3. Have students color their butterfly wings, then carefully cut them out.



Wing pattern templates

4. Make the wing supports

- a. Bend a long white pipe cleaner in half. Position a blower tube in the center of the pipe cleaner, with the blower tube facing up. See Figure 1
- b. Twist the pipe cleaner tightly around the tube and slide it to the base of the paper roll. Bend each arm of pipe cleaner to form a loose "L". These are your wing supports. See Figure 2

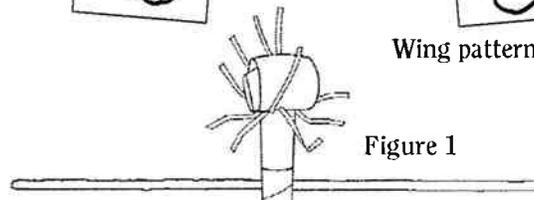


Figure 1

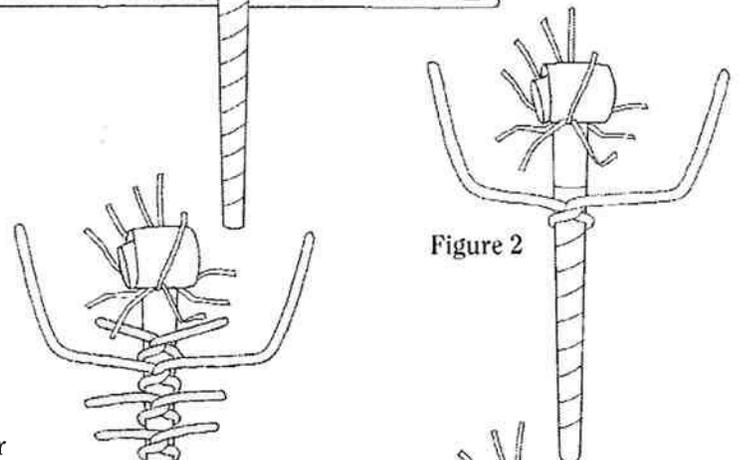


Figure 2

5. Form the legs

- a. Cut the colored pipe cleaners in half.
- b. Bend 3 pipe cleaner halves evenly around the blower tube, positioning one above the wing supports and two below the wing supports. Twist the ends of each pipe cleaner tightly around the tube. The legs should be snug on either side of the wing support; leave them sticking straight up. See Figure 3
- c. Twist the lower right and center right leg around each other, then twist the center right and upper right legs around each other. Repeat for left side. This prevents the legs from sliding on the tube. See Figure 4

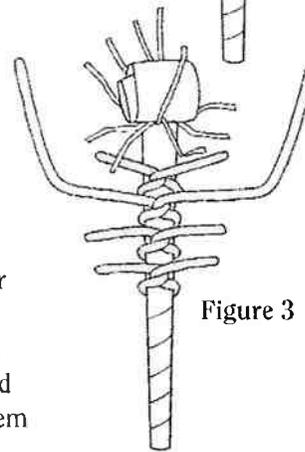


Figure 3

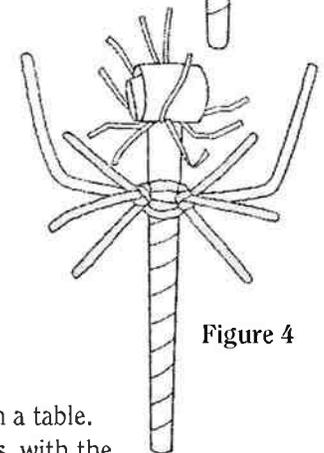


Figure 4

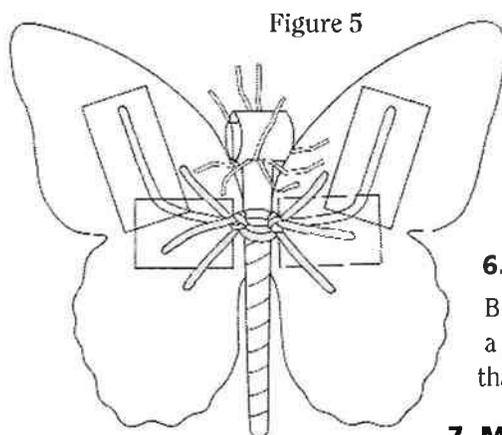


Figure 5

5. Attach the wings

Place the two wings (colored side down) on a table. Position the blower tube between the wings, with the legs sticking straight up. Tape each wing support to the wing back along the entire length of the pipe cleaner. Do not tape across the blower tube. See Figure 5

6. Adjust the legs

Bend each leg in the middle to form a joint and foot. Adjust the legs so that the butterfly will stand up.

7. Make the antennae

Bend the remaining piece of pipe cleaner in half. Wrap it around the "head" (at the base of the paper roll, just behind the rolled up "tongue" and in front of the tinsel) to form the antennae. See Figure 6

Now you're ready to explore being a butterfly! "Fly" outside and practice pollinating and drinking nectar as you act out part of the life cycle of a typical butterfly.

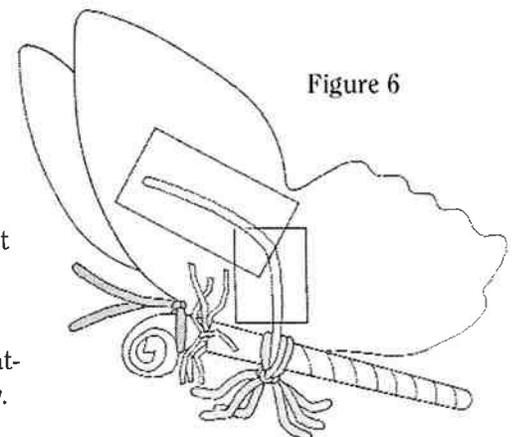


Figure 6

Special thanks to the U. S. Botanic Garden for sharing this great kit idea!

Habitat Hunt

name: _____

DO NOT DISTURB the habitats! This activity is meant to observe habitats, not disturb them! Check off each item as you find it and write the answer.

See if you can find:

- () Food that birds eat: _____
- () A place where worms might live: _____
- () A sign that birds have been at the park: _____
- () Somewhere a spider might like to hang out: _____
- () Something a snake eats: _____
- () Something that butterflies like: _____
- () An insect habitat: _____
- () Where a mouse might hide: _____
- () Something that makes a good home for a bird: _____
- () An insect: _____
- () A snack for a squirrel: _____
- () Something a bug eats: _____
- () Where a squirrel might live: _____

Station 1: the pond

1. Dip in your net, see what you catch
2. Look at pond life with magnifying glass

Station 2: worms!

1. Hold a worm in your hand: how does it feel? How does it move?
2. Notice: what is in the worm bin?

Station 3: the stream

1. Which direction is the stream flowing?
2. What lives in the stream?

Station 4: chickens

1. How many chickens are there?
2. Pick some weeds (anything green and plentiful) for them to eat—what do they like best?

Station 5: vegetable gardens

1. What kind of food is growing?
2. What can you plant now?

Station 6: the bog

1. What kind of plants live here?
2. What do they eat? (hint: what lives in the white box by the fence behind the bog?)

Where Does Our Food Come From?

Treasure Hunt, Oakhurst Community Garden

See if you can find the following:

- an ingredient for ketchup
- an ingredient for tortilla chips
- herbs for tomato sauce
- what pickles are made out of
- sunflower seeds
- any kind of bean
- an ingredient for gumbo
- where eggs come from
- where there might be honey

All Girls Green Team 2007

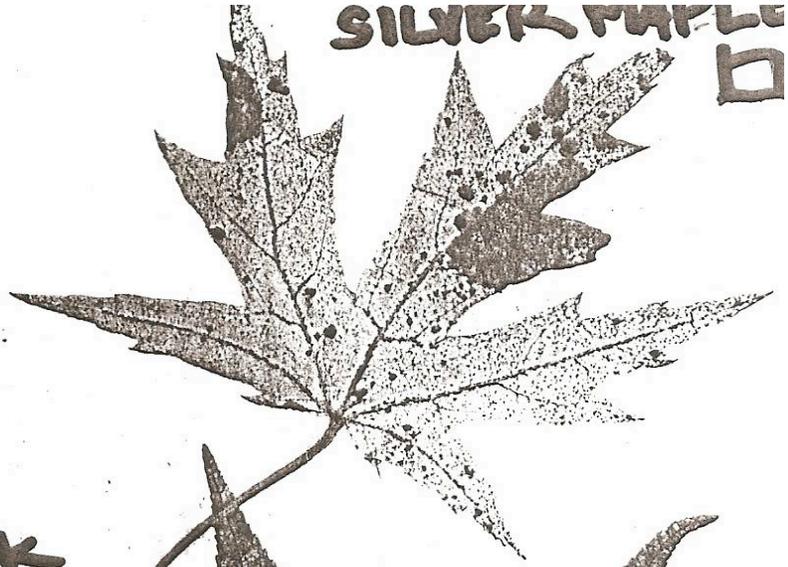
Oakhurst Community Garden Scavenger Hunt!

- Ⓞ Find the worm bins; get a worm and feed it to the chickens
- Ⓞ What container do the worms live in?
- Ⓞ How many chickens are there?
- Ⓞ Find the turtle habitat (hint: look for a short fence with a water dish in it). How many turtles are there?
- Ⓞ How many beehives are there?
- Ⓞ As a team, choose your favorite place in the garden, explain why you like it:
- Ⓞ Find 2 places where fish live
 - 1.
 - 2.
- Ⓞ Name 3 different things in the compost pile.
 - 1.
 - 2.
 - 3.
- Ⓞ Name 4 things you can eat growing in the gardens
 - 1.
 - 2.
 - 3.
 - 4.

HOLLY □



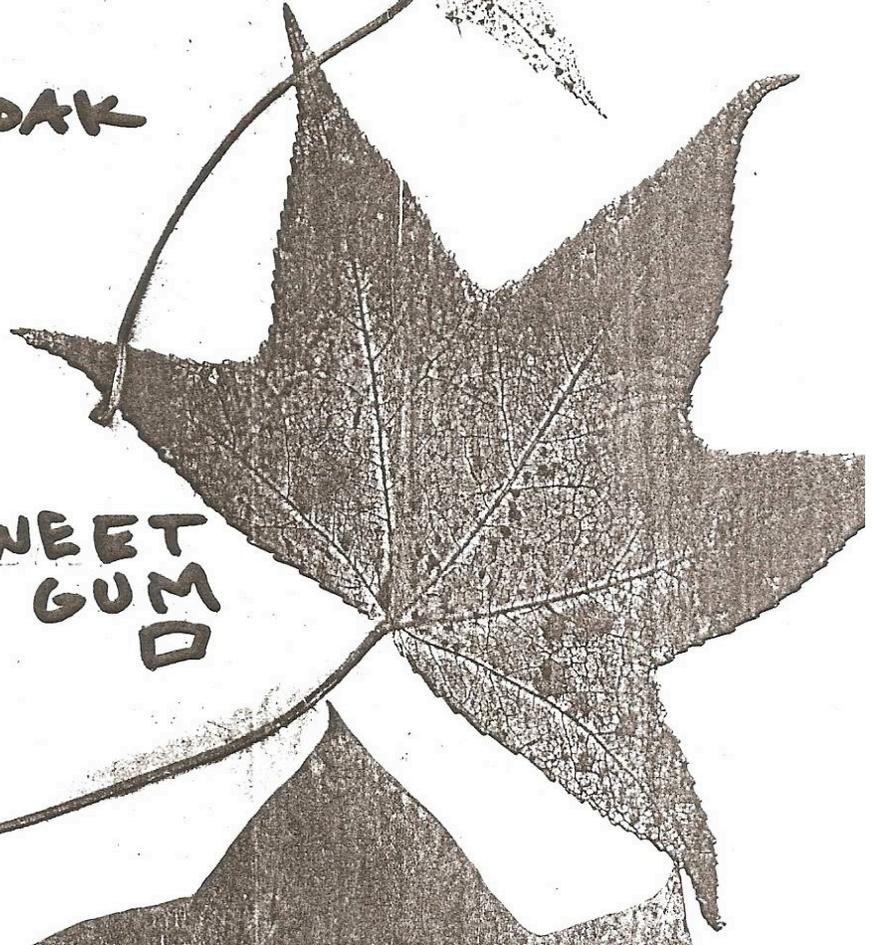
SILVER MAPLE □



WHITE OAK □



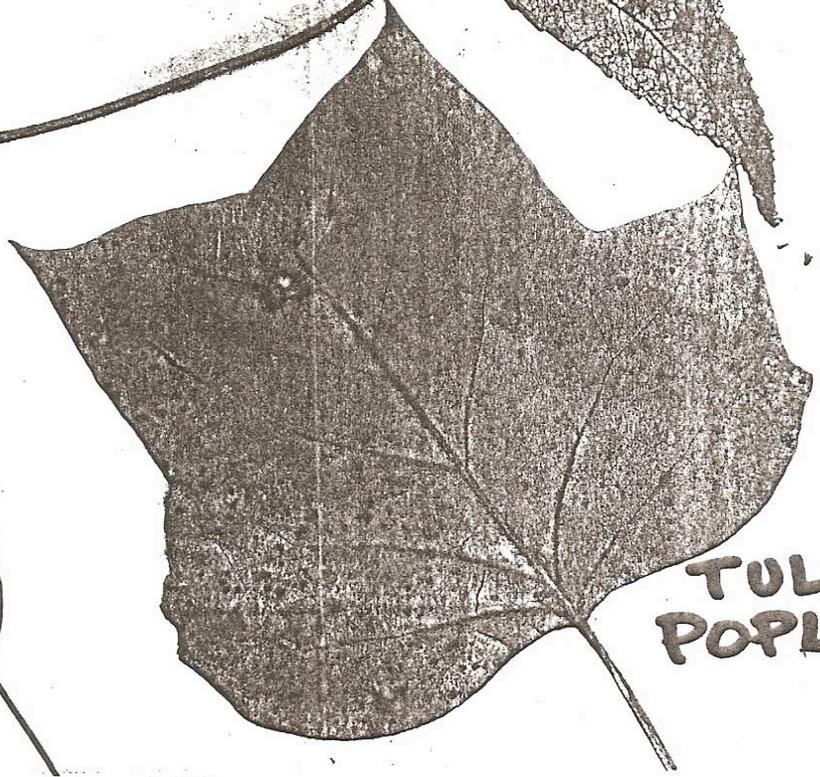
SWEET GUM □



RED OAK □

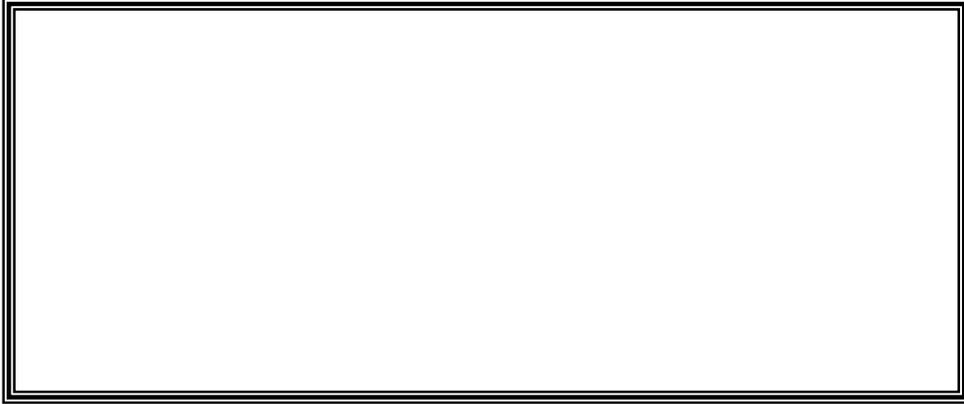


TULIP POPLAR □



Oakhurst Community Garden Fall Scavenger Hunt!

1. Collect fallen leaves to match the ones on the back of this paper
2. Find a plant that grows in the water and draw it here:



3. collect a seed from a tree
4. collect a seed from a plant
5. Find a plant that eats animals (hint: look for a round garden near the bees). What kind of animals could it eat?

6. Find the worm bins (hint: look by the compost piles, close to the stream. There are two of them). Dig out a worm and feed it to the chickens or the turtles.

