

NAME \_\_\_\_\_

## WHAT'S THAT TREE? A TREE IDENTIFICATION EXPLORATION



THE LOCAL COMMUNITY WANTS TO PUT SIGNS ON A FEW TREES AROUND CAMPUS TO TELL OTHERS WHAT TYPES OF TREES THEY ARE. WE NEED YOUR INVESTIGATING EXPERTISE TO HELP US IDENTIFY THREE TREES ON CAMPUS. YOU WILL USE A MAP TO TRAVEL AROUND IN SMALL GROUPS, TO THREE STATIONS. YOU WILL COMPLETE DIFFERENT TYPES OF IDENTIFICATION ACTIVITIES AND USE A DICOT KEY AT EACH STATION TO IDENTIFY YOUR TREES. GO OUT AND INVESTIGATE!

# TREE DICOT KEY

**DEFINITION: DICHOTOMOUS KEY** – BOTANISTS AND OTHER BIOLOGICAL SCIENTISTS USE DICHOTOMOUS KEYS TO IDENTIFY SPECIES. THESE KEYS USE CHARACTERISTIC-BASED 'YES' OR 'NO' QUESTIONS TO IDENTIFY SPECIES, BEGINNING WITH GENERIC TRAITS AND BECOMING MORE SPECIFIC.

**DIRECTIONS:** YOU WILL USE THIS KEY AT EVERY STATION TO IDENTIFY A SPECIFIC TREE. FOR THIS KEY YOU WILL BE LOOKING AT THE LEAVES. ANSWER THE YES OR NO QUESTIONS AND WRITE THE NAME OF THE TREE FOR EACH STATION ON THAT WORKSHEET.

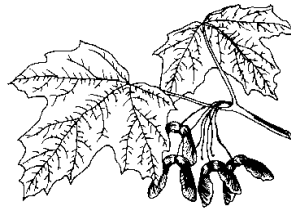
1. ARE THE LEAVES OPPOSITE?-----OPPOSITE  
IF YES, GO TO #2.  
IF NO, GO TO #3.



ALTERNATING



2. DO THE LEAVE HAVE 3-5 LOBES?-----LOBES  
IF YES, THIS IS A SUGAR MAPLE  
IF NO, THIS IS A DOGWOOD.



SUGAR MAPLE

UNLOBED

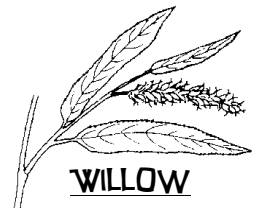


DOGWOOD

3. DO THE LEAVE HAVE LOBES?-----LOBES  
IF YES, GO TO #4.  
IF NO, THIS IS A WILLOW.

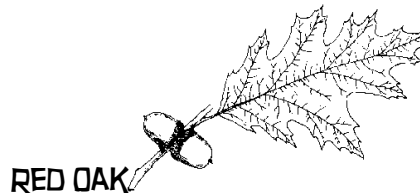


UNLOBED



WILLOW

4. DO THE LEAVES HAVE POINTED LOBES?-----POINTED  
IF YES, THIS IS A RED OAK.  
IF NO, THIS IS A WHITE OAK.



RED OAK

ROUNDED



WHITE OAK

## HUG A TREE! STATION #1



-USING THE DICOT  
KEY WHAT TYPE OF  
TREE IS THE ONE  
THAT HAS THE #1 ON  
IT? \_\_\_\_\_

PLACE: GO TO THE AREA BETWEEN THE CHAPEL, WINGER, OAKWOOD HALL, AND EAST STREET.  
FIND THE MC TREE TRUNK WITH CARVINGS ON IT, NEAR TWO SIDEWALKS THAT INTERSECT.

OBJECT: TO USE YOUR SENSE OF SMELL, TOUCH, AND MEMORY TO DETERMINE WHAT TREE YOU  
HUGGED.

### DIRECTIONS:

- PICK A PARTNER, YOU NEED A HUGGER AND A LEADER.
- THE LEADER, BLINDFOLDS HIS/HER PARTNER, THE HUGGER. (BLINDFOLDS ARE NEAR THE CARVED MC TREE)
- SPIN THE HUGGER AROUND A FEW TIMES SO THEY DON'T KNOW WHICH DIRECTION THEY ARE FACING.
- THEN THE LEADER WILL WALK THE HUGGER AROUND THE GRASSY AREA (DO NOT GO PAST THE BUILDINGS OR THE ROAD, BE A CAREFUL LEADER BECAUSE YOU WILL BE THE HUGGER LATER!)
- THE LEADER WILL TAKE THEIR PARTNER TO A TREE TO HUG AND LET THE HUGGER USE THEIR SENSE OF SMELL, AND TOUCH TO MEMORIZE CLUES THAT WILL HELP THEM TO REMEMBER WHICH TREE THEY HUGGED. (HINT:FEEL THE BARK, THE BRANCHES, THE LEAVES, AND TYPES OF SEEDS.)
- WHEN THE HUGGER HAS ALL THE CLUES THEY NEED, THE LEADER WILL TAKE THEM BACK TO THE CARVED TREE AND TAKE THE BLINDFOLD OFF.
- THE HUGGER WILL USE THE CLUES THEY FOUND AND SHOW THE LEADER WHICH TREE THEY THINK THEY HUGGED.
- NOW SWITCH ROLES

### QUESTIONS:

1. DID YOU FIND YOUR TREE? EXPLAIN WHAT CLUES AND SENSES YOU USED.
2. WHAT PART OF THIS ACTIVITY WAS HARD OR EASY?

## PIONEER TREE CIPHERING STATION #2



-USING THE DICOT KEY,  
WHAT TREE IS THIS?

---

PLACE: GO TO THE MALL IN FRONT OF CORDIER AUDITORIUM. FIND THE TREE THAT IS ON THE RIGHT SIDE OUT IN FRONT OF THE BUILDING.

OBJECT: TO USE OLD FASHIONED PIONEER METHODS TO DETERMINE THE HEIGHT OF A TREE.

### DIRECTIONS:

-THE PIONEERS DIDN'T ALWAYS HAVE LADDERS AND MEASURING TAPE TO FIGURE OUT THE HEIGHT OF TREES. THEY USED TREE CIPHERING, USING A PERSON AND A STICK TO DETERMINE THE HEIGHT.

1. BRAINSTORM AND WRITE SOME WAYS THAT YOU COULD MEASURE THE TREE WITHOUT PHYSICALLY MEASURING THE TREE AND USING A RULER AND A LADDER.

-PICK A PERSON WHO KNOWS THEIR OWN HEIGHT TO STAND BY THE TREE.

-FIND A STICK NEARBY.

-HOLD THE STICK VERTICAL OUT IN FRONT OF YOU, LINE IT UP IN YOUR SIGHT BESIDE THE PERSON STANDING BY THE TREE. BACK UP UNTIL THE STICK IS THE SAME HEIGHT AS THE PERSON.

-NOW PUT YOUR FINGER AT THE TOP OF THE PERSONS HEAD IN YOUR SIGHT. STACK THE STICK VERTICALLY ON TOP OF YOUR FINGER, KEEP DOING THIS UNTIL YOUR STICK REACHES THE TOP OF THE TREE.

2. HOW MANY TIMES DID YOU STACK THE STICK?

3. MULTIPLY THAT TIMES THE PERSON'S HEIGHT. HOW TALL IS YOUR TREE?

## RUBBINGS STATION #3



-USING THE DICOT  
KEY, WHAT TREE IS  
THIS?

---

PLACE: MOVE NORTH PAST THE RIGHT SIDE OF CORDIER AUDITORIUM IN THE GRASS. KEEP GOING UNTIL YOU SEE THIS TREE ON YOUR RIGHT, NEXT TO THE SIDEWALK THAT RUNS PARALLEL TO EAST STREET. DO NOT GO PAST THE PAVED DRIVE WITH A YELLOW GATE, THAT IS TOO FAR!

OBJECT: OBTAIN LEAF AND BARK RUBBINGS.

DIRECTIONS: ONE OF THE MOST COMMON WAYS TO IDENTIFY TREES IS BY THEIR LEAVES AND BARK. IN THIS ACTIVITY YOU WILL LOOK AT THE LEAVES AND BARK OF THIS TREE AND CREATE RUBBINGS OF EACH FOR FURTHER INVESTIGATION.

!. LOOK AT THE BARK, FEEL IT. DESCRIBE THE BARK ON THIS PAPER. THEN LAY THIS PAPER UP AGAINST THE BARK AND RUB YOUR CRAYON OR PENCIL OVER THE PAPER TO CREATE A COPY OF THE BARK ON YOUR PAPER. DO THE SAME THING WITH THE LEAVES. LABEL EACH ONE ON THIS PAPER.

Hug a Tree:  
A Tree Identification Exploration  
5<sup>th</sup> Grade Science Trail

Teacher Instructions: Set-up the stations ahead of time. The first station needs a number one sign on a white oak tree and a bag of blindfolds by the carved mc tree. The third station will need a box of crayons. It would also be helpful to have an adult or older student go around with each group. Make sure that students are broken up into small groups of even numbers. Let the students go and have fun exploring!

Materials: blindfolds, crayons, #1 sign.

5.2.7 Read and follow step-by-step instructions when learning new procedures.

5.2.4 Keep a notebook to record observations and be able to distinguish inferences\* from actual observations.

Overall objectives: -Using the dicot key students will correctly identify three trees on their science trail.

-Students will use instructions to complete three activities during this science trail.

-Students will record observations for each station on their science trail papers.

Assessment:- Check to see that all activities are completed. Check to see that the three trees are identified correctly. (3 points) Ask adult chaperones that went with each group to watch that students follow directions. Check with them to see if any of the students did not follow directions. (1 point)

Station #1. Hug a Tree!

Objective: After completing the activity students will write two different ways to locate the tree that they hugged.

Assessment: I will check their written answers from that stop, to see that they have two answers. (2 points)

Station #2. Pioneer Tree Ciphering

Objective: Using the tree ciphering method, students will write the height of an indicated tree within three feet of its actual height.

Assessment: I will check their written height for accuracy. (2 points)

Station #3. Rubbings.

Objective: After locating the indicated tree, students will perform one bark rubbing on their paper of that tree.

After locating the indicated tree, students will perform one leaf rubbing on their paper of leaves from that tree.

Assessment: I will check to see if there is one bark rubbing and one leaf rubbing on their paper from that stop. (2 points)

Dicot pictures from: <http://www.arboday.org/trees/WhatTree.cfm?ItemID=E34e>