NAME:_____ CLASSROOM:_____

Collecting Observations of Our Adopted Tree

Materials

- ☐ Pencil
- ☐ GLOBE Plant Color Guide (1 for your group)
- ☐ My Observations of Our Adopted Tree data packet With your NAME, DATE, and CLASS filled in
- ☐ Ribbon to mark your branch
- ☐ A sharpie to ID your leaf

What to Do: OUTSIDE – Choosing and labeling your leaf

1. Find your tree (your teacher will help you)
2. With your group, select a BRANCH with many green leaves on it
    a. You must be able to reach the branch to look at the leaves
3. Tie a ribbon UP HIGH around YOUR BRANCH. The ribbon should be marked with:

    a. **Your Room Number**:_____

    b. **Your Group Number**: _____

4. <u>One at a time</u>, EACH GROUP MEMBER, select ONE leaf on your branch to study
    a. <u>Taking turns,</u> you will USE A SHARPIE to mark the STEM where YOUR leaf connects to the stem
    b. DO NOT MARK THE LEAF BECAUSE IT WILL FALL OFF

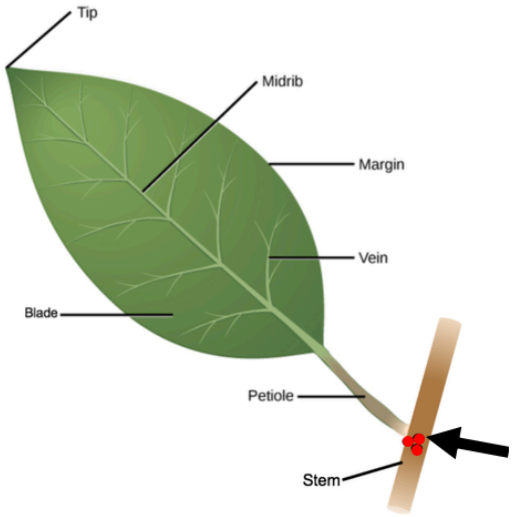
    c. **Draw the marking you used to label YOUR leaf**:_____

5. Find a DIFFERENT BRANCH ON YOUR TREE (a branch with NO RIBBON) and PICK ONE LEAF OFF OF THAT BRANCH
    a. We will take this inside, so put it in a safe place

Step 2: Select a branch you can easily reach with many leave

Step 3: Tie your LABELED ribbon around your branch.

Step 4: Use a sharpie to <u>mark the</u> <u>STEM</u> where YOUR leaf connects.



What was this student's ID Number? _____

How do you know?_____

NAME:_____ CLASSROOM:_____

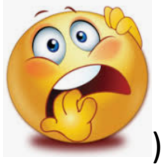
What to Do: INSIDE – Filling in "My Observations of Our Adopted Tree" journal

We will work on this as a class

1. Take out your "My Observations of Our Adopted Tree: A NASA GLOBE Project" study journal
2. Page 1: Fill in the First Day Collection Data TABLE: ***your teacher will help you with some of the questions***
3. Page 2: ON YOUR First Day Collection Data MAP circle where your tree is located
4. Page 3: On YOUR First Day Leaf rubbing Sheet, do a rubbing of your leaf using a CRAYON COLOR that matches your leaf.

What to Do: FUTURE OBSERVATIONS:

You will keep visiting your leaf at least one time every week to see IF your leaf changes and, if it does, to record HOW it changes.

1. Page 4: Use this data sheet to record your observations every time you visit your leaf.
2. If your leaf is covered in snow, **don't try to scrape the snow off** (you might pull your leaf off ). Circle "Snow Covered" in the Column that says "Leaf (Color, Fallen, or Snow Covered)."
3. If your leaf fell off the tree (it is gone), circle "Fallen" in the Column that says "Leaf (Color, Fallen, or Snow Covered)."
4. Page 6: If your leaf does fall off your branch, keep watching your tree. Use page 6 to record observations of your tree after your leaf falls, but while your tree or other trees still have leaves.

Big Question: Why Do Tree Leaves Change Color In the Fall?

Collecting Observations of Our Adopted Tree

Students will work in groups of 4 (no more than 5 students in a group)

Materials

- ☐ Pencil
- ☐ GLOBE Plant Color Guide (1 for your group)
- ☐ My Observations of Our Adopted Tree data packet With your NAME, DATE, and CLASS filled in
- ☐ Ribbon to mark your branch
- ☐ A sharpie to ID your leaf

What to Do: OUTSIDE

1. Find your tree (your teacher will help you)	*Teacher: Before going out, select 2-3 trees that you will assign student groups to. Try to have no more than 3 groups working on 1 tree.* *Give each student a number (1-5) so they can use their numbers to mark their leaves in step 4)*
2. With your group, select a BRANCH with many green leaves on it a. You must be able to reach the branch to look at the leaves	*Teacher: Phone Apps that will be helpful for you to help students ID trees are: PlantNet, Plant Snap, and/or Leaf Snap*
3. Tie a ribbon up high around YOUR BRANCH. The ribbon should be marked with: a. Your Room Number:_____ b. Your Group Name: _____	*Teacher: ***Tell student, From now on, ONLY GRAB THE BRANCH/STEM, NOT THE LEAVES because the leaves will pull off* *Have students tie their ribbon UP HIGH, above where their observation leaves will be*
4. One at a time, EACH GROUP MEMBER, select ONE leaf on your branch to study a. Taking turns, you will USE A SHARPIE to mark the STEM where YOUR leaf connects to the stem i. DO NOT MARK THE LEAF BECAUSE IT WILL FALL OFF	*Teacher: Students should use the number of dots that correspond to their given number (NOTE IN Step 1) to mark their leaves*
5. Find a DIFFERENT BRANCH ON YOUR TREE (that no one is studying- so there is NO RIBBON ON IT) and PICK ONE LEAF OFF OF THAT BRANCH a. We will take this inside, so put it in a safe place	

What to Do: INSIDE	
1. Take out your "My Observations of Our Adopted Tree: A NASA GLOBE Project" study journal 2. Page 1: Fill in the First Day Collection Data TABLE: ***your teacher will help you with some of the questions*** 3. Page 2: ON YOUR First Day Collection Data MAP circle where your tree is located 4. Page 3: On YOUR First Day Leaf rubbing Sheet, do a rubbing of your leaf using a CRAYON COLOR that matches your leaf.	*Teacher: Use the WeatherLink.com site to find the data for your school. The hyperlink above is to a PDF with detailed instructions on how to do this.* *Page 1: Students may/will need help with* *1. the Common Name of their trees,* *2. The Scientific Name of their trees* *3. The direction of the school their tree is on (use the map to help-maps are oriented N to S)* *4. The temperature(on WeatherLink) – Let students know which unit to circle (^oF or ^oC) for the temperature you provide* *5. SUNRISE time (on WeatherLink)* *6. SUNSET time (on WeatherLink)* • *You could have students track daylength using this data. Daylength has a bigger influence on green-down than temperature does and this can be an interesting trend for students to discover on their own through looking at their data.* *7. For Leaf Shape, students should describe what the leaf looks like to them. There are no correct answers to this question, it is a way for them to recognize their leaf (or similar leaves) on their tree or on other trees.*
What to Do: FUTURE OBSERVATIONS: You will keep visiting your leaf at least one time every week to see IF your leaf changes and, if it does, to record HOW it changes. 1. Page 4: Use this data sheet to record your observations every time you visit your leaf. 2. If your leaf is covered in snow, **don't try to scrape the snow off** (you might pull your leaf off). Circle "Snow Covered" in the Column that says "Leaf (Color, Fallen, or Snow Covered)." 3. If your leaf fell off the tree (it is gone), circle "Fallen" in the Column that says "Leaf (Color, Fallen, or Snow Covered)." 4. Page 6: If your leaf does fall off your branch, keep watching your tree. Use page 6 to record observations of your tree after your leaf falls, but while your tree or other trees still have leaves.	*Teacher: The Student Observation Packet has 2 pages (10 observations worth) of Fall Data Sheets. Once a student's leaf has fallen off the tree, there is an additional data sheet provided where students can record their whole-tree observations and continue recording until all (or >90%) of the leaves have fallen. They may notice bigger, general trends through these observations and they may come up with their own exploratory questions based on these observations.*