Activity 2 – Color Change of Leaves

1) On a branch of your tree mark 4 leaves:
   - Select a branch that is large, healthy, on the south edge of the tree and easily accessible and mark it with tape or ribbon.
   - Always start from the end of the branch - choose the terminal leaf and mark the branch next to the leaf stem. If possible, select the same leaves as in the spring.
   - Locate the three other leaves on this branch closest to this terminal leaf and mark them the same way.
   - Use permanent marker or tape

2) Observe the leaves twice a week:
   - Start two weeks before the expected start of green down and continue until leaf color change has ended or leaves have dropped off.
   - For each leaf report:
     - the dominant color estimated using the GLOBE Plant Color Guide. If you don’t have the Guide, contact your country coordinator. For example, if leaf 1 appears colored at 60 percent 5G 7/12 and 40 percent 2.5 Y8/10, record the leaf color as 5G 7/12 for that observation date.
     - “snow covered”, if the leaf is snow covered
     - “fallen”, if the leaf has fallen

   - To record your observation, use GLOBE Green-Down Data Sheet (last page)
   - Share the date of the end of green down at the Discussion forum.
3) Track the color change
- At each visit, use GrowApp to take a **picture of the observed leaves** with the white paper in the background. See, how the color of leaves changes in your **time-lapse animation**
- Using crayons or water colors, **create a palette of leaf colors** that you can see at your branch day by day. You can also create a color palette following this **learning activity**.
- Share the animation and picture of your color palette at the **Discussion forum**.

4) Optional: Record temperature and precipitation
If you have an Atmosphere site nearby, keep recording temperature and precipitation data along with observing the leaves and see if there is any link.

*And do not forget to continue taking pictures of the whole tree using GrowApp!*

The activity should be completed up to November 21.

Students can take turns observing a tree near the school or observe their own trees. Use online tools such as Padlet or Wakelet to share pictures and results in your team.
**Green-down**

Tree, Shrub, and Grass Green-Down Data Sheet

School Name: ___________________________ Study Site: ________________

Observer Names:_____________________________________________________

Plant Scientific Name: Genus____________________  Species: ______________

Plant Common Name: ________________________________________________

Green-Up Cycle:_____ Year:_____

<table>
<thead>
<tr>
<th>Date (day &amp; month)</th>
<th>Leaf 1 (Color, fallen, or snow covered)</th>
<th>Leaf 2 (Color, fallen, or snow covered)</th>
<th>Leaf 3 (Color, fallen, or snow covered)</th>
<th>Leaf 4 (Color, fallen, or snow covered)</th>
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Check the last column in the green-up table to keep track of data submitted.

**Comments (date each comment):**

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