



## MS@home: Bringing MOUNTAIN SCHOOL to You!

During this time of school closures and stay-at-home guidelines, North Cascades Institute is sharing lessons and activities from our talented Mountain School instructors. We hope these will inspire students of all ages to continue to learn about the natural world and discover new connections to the outdoors from home.

Discover more learning adventures at [ncascades.org/ms-at-home](https://ncascades.org/ms-at-home).

### LESSON 2: Tree Bud Journal Project by Sarah Meyer

► **Up here in the Skagit Valley**, the songbirds have returned and there are fluffy buds appearing on willow branches along the river. Spring is in the air, and it is the perfect time to investigate up-close one of the most wonderful parts of the year: the leaves returning to our favorite deciduous trees and shrubs!

For this Mountain School @ Home lesson, I'm sharing an ongoing project to do with your young learners over the course of the season, and beyond. *Get ready to befriend a tree!*

At Mountain School, we love to make observations of all varieties and at all levels of complexity. This multi-week activity is perfect for tuning you and your child's senses to the changes happening in the natural world—whether you're in the wilderness or exploring a built environment.

#### Choose your tree

For this activity, you and your student will choose a deciduous tree (one that sheds its leaves annually to go dormant for the winter) close to your home. An ideal tree will have a branch hanging low enough for your child to reach and examine up close, and will just be beginning to bud or leaf out. (Neither of you need to be able to identify the tree, but perhaps you will discover its identity as the season progresses!) Choose one single twig on this branch, no more than a couple inches, and tie a ribbon or brightly-colored string next to it so you remember which bud you are observing—be careful not to disturb the bud's growth with your string. It will be yours to observe in the coming weeks!



APRIL 10

bud burst  
green petals revealed



APRIL 17

tiny green shoot  
starting to form from bud  
bud fully broken open  
yellow catkins with  
upollen



APRIL 24

bud split open to  
reveal a new green stem  
three terminal leaves  
two leaves along stem  
of new growth 1.5-2"  
tiny red dots on end of  
new growth  
six long catkins, some of the  
petals have turned brown

#### What you'll need:

- plain paper
- a pencil
- drawing/coloring materials
- a 10" piece of ribbon or brightly-colored string
- a tree you can continually visit over several weeks



#### Happy Birthday Mountain School!

For 30 years, this transformational 3-day school program has taught kids that they are part of the natural world and jump-started their lifelong engagement with the environment.

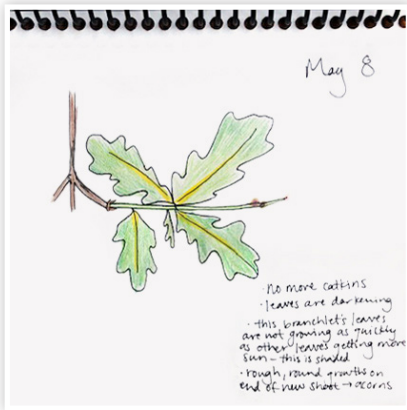
Help us celebrate by sharing your Mountain School story at [ncascades.org/ms30-blog](https://ncascades.org/ms30-blog)

► **Sarah Meyer** originally did this exercise as a term project five years ago during a college course called Trees Across Oregon, and says "I have never learned so much about the way deciduous trees grow as I did during this exercise." She credits Whitey Lueck at University of Oregon for this delightful investigation into annual growth.



MAY 1

May 1  
 • browned catkins  
 some from other branches  
 are blowing off the tree  
 and flying with wind  
 • some leaves missing  
 • bud scales mostly gone



MAY 8

May 8  
 • no more catkins  
 • leaves are slow growing  
 • this branch's leaves  
 are not growing as quickly  
 as other leaves on other  
 stems - this is stunted  
 • rough, round growth on  
 end of new shoot - occurs



MAY 22

May 22  
 • leaves slowly growing  
 • new shoot developing  
 • acorns have notched - new bottom  
 still growing with scales on the  
 distal part of stem



MAY 29

May 29  
 • leaves are definitely  
 smaller than others  
 on tree - stunted  
 • acorns are becoming  
 more scaly

My drawings from my term project are of *Quercus robur*, English Oak; your tree does not need to be a native species. Any tree near your home will do. Start soon—buds are bursting open left and right!

## Crafting your Tree Bud Journal

It should have at least ten pages of blank paper, and should be at least 4 x 6 inches. Computer paper folded in half and stapled works great.

## Start your observations

Plan to spend at least 15 minutes with the tree bud, or as long as necessary to get a good sketch. Start by making observations about your bud together: “I notice.... I wonder.... It reminds me of.....” and have your student write down some observations in their journal. Is this bud different from other buds on the tree? Do you have any predictions for how the position of this bud low-down on the tree will affect its growth? Write it all down!

Next, work with your student to draw the bud as accurately as they can. If the bud has scales, draw the scales. If the bud is pointy, make sure the drawing is pointy. Don't forget to label what you observe! It doesn't have to be perfect; the exercise of drawing what one sees is in itself a valuable observational tool.

Once the field sketch is done, you and your student can finish up the color portion of the drawing at home—feel free to take a photo or two for reference. (Personally, I had an easier time making my drawing more true to form by sketching a final draft from a photo).

## Keep it going!

Visit your tree bud once a week for the next several weeks to make observations about its progress, and to draw a new picture. Try to visit on the same day each week.

Keep track of the changes you see in the journal: is anything missing that was there last week? Is there something new this week? How are the colors different? Is this bud different from buds higher up on the tree? Why is that? What about other trees nearby?



JUNE 3

June 3  
 • bottom terminal leaf growing faster than others  
 • acorns nearly all scaly  
 • leaves becoming slightly curled  
 • leaves along stem are quite deformed

There is no need to use scientific plant morphology terms in these observations, but if your student is looking to up the ante, there are websites galore with information, including this fun interactive tree ID guide from the Arbor Day Foundation.

## Share!

As the season goes on, send us pictures of your student's journal to [photos@ncascades.org](mailto:photos@ncascades.org)! We would love to hear about the observations of spring growth you and your student make in your home environment.