

AMC's Flower Watch Program is done in partnership with AMC Mountain Watch, Appalachian Trail Mega-Transect project, and National Phenology Network

Special thanks to Sher Loomis and her spring 2009 afterschool class



Appalachian Mountain Club's Flower & Berry Book

From the yard to the trail
New England to the Mid-Atlantic

Observe, record, contribute



MOUNTAIN WATCH

AMC families bring it outside!

- Help kids discover nature by observing flowers
- Bring your flower observers to a nearby trail
- Plant the seeds for participating in AMC's citizen science flower monitoring

*FOR AGES 6 – 11
with adult guidance*

Table of Contents

Introduction	3
What flowers are made of	4
Local indoor or outdoor activity	5
Flower stages	6
Local indoor or outdoor activity	7
AMC Spring Flower Checklist (Northern)	8-9
Looking for pollinators	10
Local outdoors activity	11
When flowers fruit	12
Local outdoor activity	13
AMC Berry Checklist (Northern)	14-15

My Berry Checklist

Name: _____

I saw Trout lily fruit



Date: _____

Place: _____

I saw Mayapple fruit



Date: _____

Place: _____

I saw Bloodroot fruits



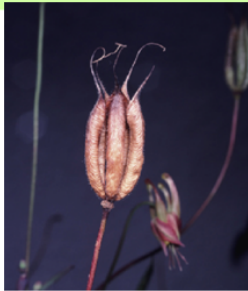
Date: _____

Place: _____

My Berry Checklist

Name: _____

I saw Red columbine fruits



Date: _____

Place: _____

I saw Red trillium fruit



Date: _____

Place: _____

Introduction

AMC's Flower and Berry Book is designed to engage families, schools and hikers in observing some woodland plants and the flowers and berries they produce. Our main focus is tracking the timing of flower and fruit development of specific plants in the mountains near the Appalachian Trail however we recognize that much of the initial techniques and skills can be learned in back yards, local parks, and school yards. By highlighting the beauty and importance of the *flower* and subsequent berry development this guidebook is designed to teach you about the growing phases of flowers, provides hands-on indoor and outdoor activities, and encourage you and your family to participate in AMC's trailside flower watch program; *Mountain Watch*.

Become a flower observer!

Observing the seasonal phenomenon of plant reproduction (from bud formation, to flower, to fruit) and linking that with climate information is the study of *phenology*. Scientists have used phenological records collected by citizen for hundreds of years. AMC's flower watch program asks you to be a citizen-scientist and contribute your observations so we can understand how mountain plants may respond to climate change. Learn how to participate at www.outdoors.org/mountainwatch

With this book you can start near your home, at a local park, or woodland area where you can learn your plant identification skills, observe the seasons, and track your favorite flower from bud to seed or fruit. We strongly encourage a trip to a trail when spring has fully sprung. Data collected along trails should be sent to AMC or entered on line at: www.outdoors.org/mountainwatch/volunteers

We want to hear from you!

Understanding how activities like those found in this book helped you and your family observe and learn about flowers, trailside observations, and more is important to us. Please send us your email address so we can know about your participation, take your feedback and inquire about your interest to do more flower observing.

Contact us at: AMCmtnwatch@outdoors.org

What flowers are made of ?

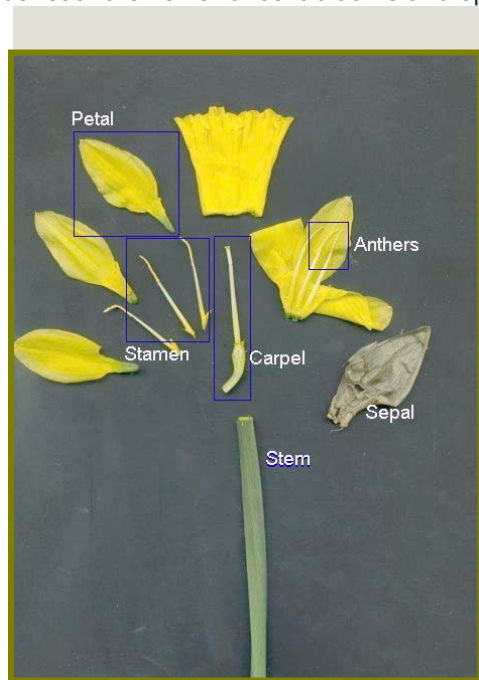
Flowers come in many shapes, sizes, smells and colors. However the flowers job is the same in all plants, to make seeds and more plants! The different flower smells, color and shapes accommodate different insects, and other pollenators, providing a diversity in beauty and nature.

Petals Their shape and color can attract pollenators. Brightly colored centers help direct bees to the pollen.

Stamen (filament and anthers): The male flower part that supplies the pollen

Carpal The female flower parts that, once pollinated, develops into seed or fruit.

Sepal The green layer that protects the flower in the bud stage, they are beneath the flower once it blooms and opens.



Fruit Observations

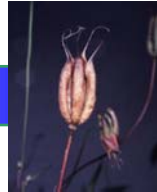
Look for fruits such as berries

Draw pictures of fruit you observed

When flowers fruit



April → May → June → July → Aug. →



Many flowering plants that are pollinated develop fruit that holds the seeds for the next generation of plants.

Many berries are NOT EDIBLE for humans but provide food for many woodland animals.

Examples of woodland plant fruit and seeds and some of the critters who eat them are listed below.

Fruit/Seed Type	Critter
Mayapple fruit/seeds	Eastern Box Turtle. Assists in dispersing and improves germination
Wild (red) Columbine seeds	Finches and buntings
Bloodroot and Trillium seeds	Ants gather and disperse seeds eating their nutritious surface

Learn your flower parts




You can buy a flower or grow one from a bulb in order to pull it apart! Pick one with large visible parts like a daffodil or tulip.

Dissect (or observe) a flower and draw its parts and label them.

Flower stages

When is a flower really flowering?

The plant shown is Trout lily

<p>Before Flowering</p>	<p>Just leaves may be present, or a flower bud starting to swell with some flower petals starting to emerge but not open</p>	
<p>Flowering</p>		<p>Some of the flowers petals are open enough to allow access to a pollinator, the center is visible even when petals folded downward</p>
<p>After Flowering</p>		<p>Some flower petals are wilting or have fallen off, Berries could be present.</p>

Note that one plant can have flowers in different stages at the same time.

Observing Pollenators

Did you see a bee? What was it doing?



Did you see a butterfly? Did it land on a flower?



Photo by R. Stewart

Did you see other insects or hummingbirds?

Pollinators; What's the attraction?

Smell Some insects are attracted to the chemicals given off by the plant, it's smell. Bats also are guided by strong scents. These smells can vary from sweet to rancid which can attract different pollinators.

The "stinking Benjamin" while pretty does not smell good, to us, but does attract flies!



Color Bees and some birds are guided to the flower by color. Some flowers have brightly colored centers to guide pollinators to the right place, where the pollen and nectar are.

Shape The shape of a flower fits its pollinator. Other plants, like Hobblebush and Bunchberry, have large "false" flowers surrounding a cluster of small real flowers to ensure that the pollinator finds its target.



Observe and draw phases of any flowering plant in your backyard or ones you may be growing inside

Draw a picture of the different phases

Before Flowering

Flowering

After Flowering

My Wild Flower Checklist Name: _____

New England and Mid-Atlantic Flowers

I saw Mayapple flowers



Date: _____

Place: _____

I saw Bloodroot flowers



Date: _____

Place: _____

I saw Trout lily flowers



Date: _____

Place: _____

My Wild Flower Checklist Name: _____

New England and Mid-Atlantic Flowers

I saw Red columbine flowers



Date: _____

Place: _____

I saw Red trillium flowers



Date: _____

Place: _____

I saw Spring beauty flowers



Date: _____

Place: _____