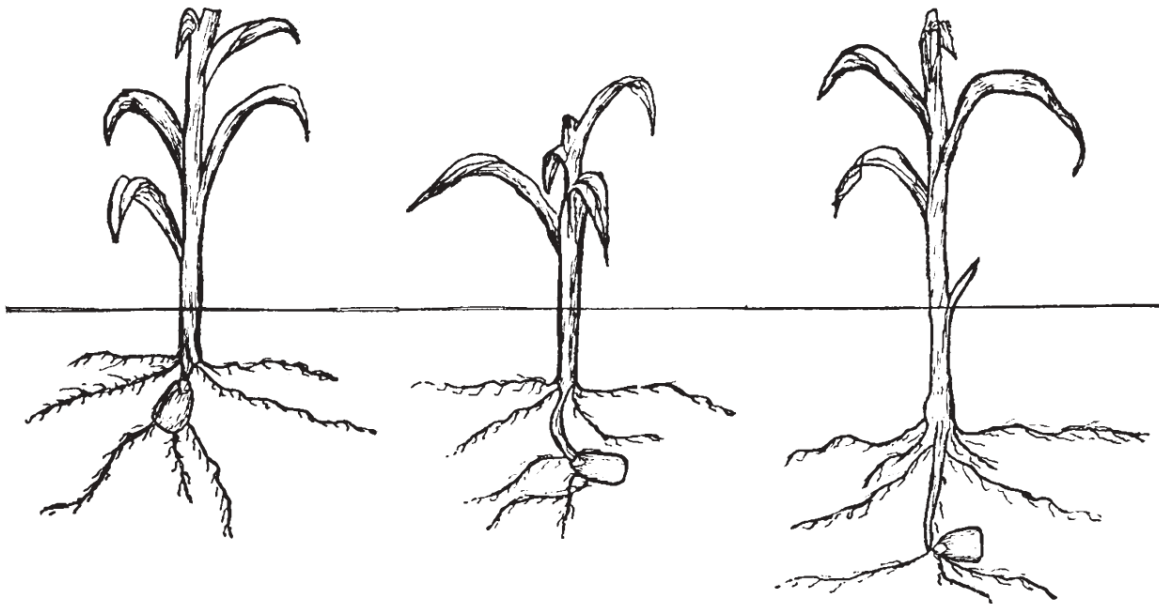


NATURE STUDY HACKING

HOW TO GET OUTSIDE AND USE A NATURE JOURNAL

CULTIVATED CROPS & WEEDS

LESSONS BASED ON HANDBOOK OF NATURE STUDY



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NATURESTUDYHACKING.COM

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Nature Journal Prompts

Once you've picked out your topic, you will want to start using your nature journal to record your findings, start drawing or even finding poetry to describe the parts of nature you grow to love more deeply. I've included a list here of types of entries that you may include in your journals. You will notice that they aren't all of the drawing variety. As I've studied naturalists, I've found that some love to write words in their journals, some love to draw and date their art and some make lists or track measurements and statistics. In fact, there are as many ways to enter information into a nature journal as there are subjects to study. But, that's a bit overwhelming when we are starting out, isn't it? So here, I am giving you some ideas for types of entries to make in your journals. You can see it as a menu. Take what you like and leave what you don't. I've included the list on one page so that you can print it out separately to use for reference if you so desire.

At the end of this booklet, I've also included weekly lesson plans for those who would like a guide to get you started without the burden of deciding what to do next.

1. Copywork: Anatomy Page (Science/Language Arts/Art)
 - a. copy parts and draw a diagram from a model
 - b. parts of a flower/tree/horse/eye
2. Copywork: Theme Page (Science/Language Arts/Art)
 - a. copy classification types/sizes/shapes etc (i.e. leaf shape, various angles of subject, bird feet types, tree shapes, caterpillar/chrysalis/larvae/eggs/plant it eats etc)
3. Draw Specimen: Label with common name, label with Latin name (Art, Language Arts)
 - a. find an interesting fact about a subject
 - b. Draw parts - i.e bud, flower, leaf, bark pattern, whole shape
4. Narration: (mother record's into Nature Journal if child is too young to write well) (Language Arts)

From a recent nature outing, record the date and location then:

 - a. What did you see and where?
 - b. What were the weather conditions?
 - c. What did you like?
 - d. What did you not like?
5. Narration: Observe a habitat - draw or write about what else lives in/on/around/under/with your subject (Science/Language Arts)
6. Rubbings, tracings and pressings (Art)
7. Phenology wheel month-by-month/day-by-day (Science)
 - a. Select something with a cycle to observe
 - b. Caterpillars, trees, phases of the moon, weather patterns etc
8. Phenology wheel to track one subject throughout the year (Science)
9. Find a poem about the subject and copy it into your Nature Journal (Language Arts)
10. Track growth or patterns with a bar graph (Math)
11. Learn the history of the tree you are observing, use an encyclopedia, reference book or search the Internet with you parents. Record your findings on your page.
12. Draw a map
 - a. Your home, favorite hiking spot, layout of a garden, neighborhood walking route and notable plants/animals/birds you encounter

How to Use This Book

Nature Study Hacking is designed to help you guide your students through the art of studying nature and keeping a Nature Journal. These principles are old, but this application is new. The ideas from Anna Comstock's classic book *Handbook of Nature Study* are combined with the ideas of modern naturalists and educators such as Clare Walker Leslie, Charles E. Roth, Cindy Rollins and Jeannette Tulis.

The lessons are designed to be short. They begin with observation. In observing nature first-hand, we begin to develop a relationship with it that can't be duplicated. This is because we are able to engage the totality of our five senses and get to know a thing in its home. I know that when I have friends over to my home they are able to know and understand me more fully. This is the same with nature.

Reading must accompany any nature lesson. A book about nature lore or a book that describes the way these animals behave and live is essential to the study of nature. I've included the selection from *Handbook of Nature Study* with each animal. I've shortened them slightly and updated some of the language so that you can just jump straight to the reading while you present your lesson or perhaps you read about the animal during your Morning Time or bedtime or other family learning. (That is up to you!) Please don't skip the readings though, you will miss so much knowledge.

Diagrams are used to show or label to help teach us to call nature by name. When we know the name of something we, once again, develop a closer relationship with it. *We know* it. The lessons use copywork in order to help us remember and to know. This should be a delight and a means to the greater end of learning about nature.

With care, I've woven in a variety of types of Nature Journal entries into this series. Copywork, vocabulary, writing, math, map-making, research, reading and more are incorporated so that as you study your chosen topic, you can also explore it on a variety of levels. In addition, keeping a Nature Journal is not just about painting beautiful watercolor paintings. You will enjoy learning about many different types of entries as you go through our study together! I've designed the lessons with the aim of two lessons each week over a twelve week term. However, you can do as many or as few as you'd like. My goal is to help you establish the habit of using a Nature Journal. This book is the support to help you achieve this. It's designed to serve families first and foremost.

Lastly, throughout the study you will enjoy a few "breathing lessons." I've titled them "Review, Improve & Delight." These help us and our students to take the time and care to go back over our work and add to it, clean it up and make it better. The habit of taking the time to carefully improve our work can help us not only review what we have done, but also help us enjoy what we've done and find ways to improve it.

We'd love to hear about how you are nature study hacking! Please use #naturestudyhacking on social media if you are enjoying your booklet! Please contact us at www.naturestudyhacking.com with questions, hive fives and any ideas for improving this valuable resource for families beginning their own Nature Study Hacking journey!

Clover | Lesson 1

Supply list:

1. Nature Journal
2. Pencil and eraser
3. A clover with roots, leaves and flower (ideally)

Leading thought: The clovers enrich with nitrogen the soil in which they are planted. They are very valuable as food for stock. Their flowers are pollinated by bees.

Step 1: Observe the clover. What color is the flower? What shape are the leaves? Do the leaves have one shade or more of green? What about the roots? Is there anything interesting about them? Are they smooth? If you have a red clover, do you see the nodules on the roots?

Step 2: Write the common and Latin name of your clover on the top of the next blank page of your Nature Journal.

Step 3: As neatly as you can, draw the clover with pencil. Can you make it the actual size?

Clover - Further Study| Lesson 2

Supply List:

1. Nature Journal
2. Pencil and eraser
3. Book or resource that tells more about clover
 - a. *Handbook of Nature Study* p.591-594
 - b. White Clover Plant Guide handout https://plants.usda.gov/plantguide/pdf/pg_trre3.pdf
 - c. Red Clover: *Wildflower Folklore* by Laura C. Martin p 242-244

Step 1: Read a short selection about clover (pick ONE book or resource from the list above)

Step 2: Consider the following questions: How many kinds of clover do you know? What is the name of the one you have? What is the Latin name? How do the clover roots help to protect land from being washed away by heavy rains? How do clovers keep the soil moist? How does it aid the farmer?

Step 3: In your Nature Journal, record what you've learned on the same page where you drew your clover.

Younger students: For very young students, Parents/Teachers should just pick one word or idea for the child to copy.

Older students: May write more depending on ability.

Note: This lesson may take two days to complete. Keep the lesson to less than 20 minutes.

Red Clover

Latin: Trifolium pratense



Strawberry

Latin: Fragaria



What is a Weed? | Lesson 14

Supply List:

1. Nature Journal
2. Pencil and eraser

Leading thought: Why do we call a plant a weed? Is a weed a weed wherever it grows? We should ask of every weed in our garden or on our land the following questions, and let it answer them through our observations in order to know why the weed grows where it does:

Step 1: Go outside for five minutes and spot some of the weeds growing around your home or school.

Step 2: Choose one weed from your home to study and see if you can discover the answers to some of these questions: Can you name one or two of them? How did this weed plant itself where I find it growing? How did the seed get there? What sort of root does it have? What is the stem like? Is it fleshy or woody? Is it erect or climbing? What about the leaves? Are they covered with prickles like a thistle or fuzzy and soft? Describe the flower. How long does it bloom and how are the ripening seeds protected? (See more questions in *Handbook of Nature Study* on page 513)

Step 3: Record your observations on the next blank page of your Nature Journal.

Dandelion - Observation | Lesson 15

Supply List:

1. Nature Journal
2. Pencil and eraser
3. Three dandelions
 - a. One with the flower, leaves and roots
 - b. One with a bud
 - c. One a head full of seed (sometimes called a “blowball”)

Leading thought: The dandelions flourish despite our determined efforts to exterminate them. Let us study the way in which they conquer.

Step 1: Observe the dandelions. Where did you find them growing? Is the blossom-stalk solid or hollow? Does it break easily?

Step 2: Write the common and Latin name of your dandelion on the top of the next blank page of your Nature Journal.

Step 3: In your Nature Journal, draw the leaf of the dandelion. Why was the plant named “lion’s teeth”? How are the leaves arranged about the root? How does this help the dandelion and hinder other plants?

Note: Keep lesson short. No longer than 20 minutes. If you find that you are taking too much time, split the lesson into two or three sittings.

Dandelion- Further Study| Lesson 16

Supply List:

1. Nature Journal
2. Pencil and eraser
3. Book or resource that tells more about dandelions (pick ONE of the following)
 - a. *Handbook of Nature Study* p. 531-535
 - b. *Wildflower Folklore* by Laura C. Martin p. 161-163, 173

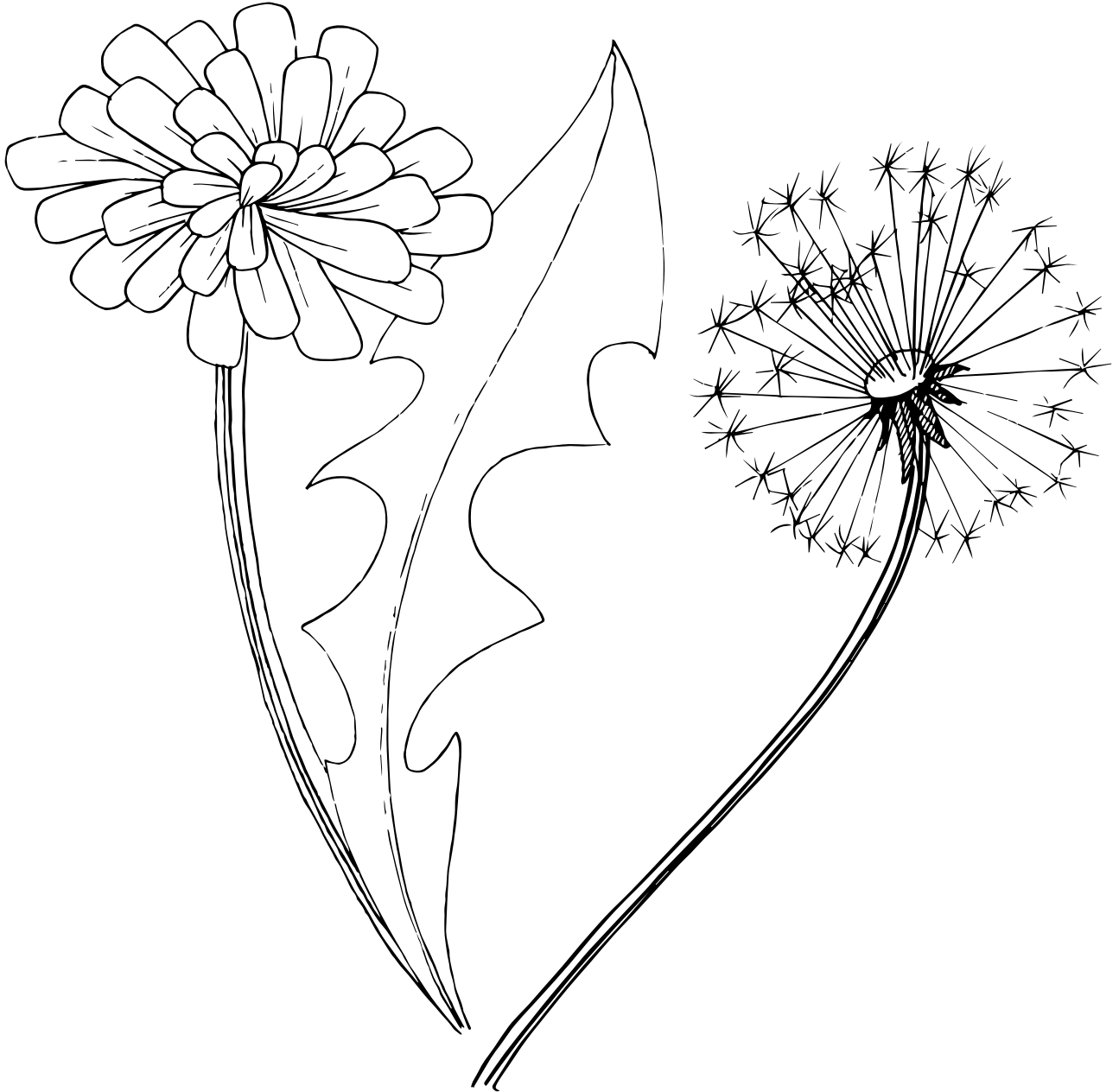
Step 1: Read a short selection about dandelions.

Step 2: During the read aloud or after you read to yourself, draw a map of where you can find an abundance of dandelions in your yard or neighborhood.

Bonus: In your Nature Journal, on the page you wrote the common and Latin name of dandelions.

Dandelion

Latin: Taraxacum



Buttercup- Further Study| Lesson 23

Supply List:

1. Nature Journal
2. Pencil and eraser
3. Book or resource that tells more about buttercups (pick ONE of the following)
 - c. *Handbook of Nature Study* p. 516-518
 - d. *Wildflower Folklore* by Laura C. Martin p. 151-152, 185

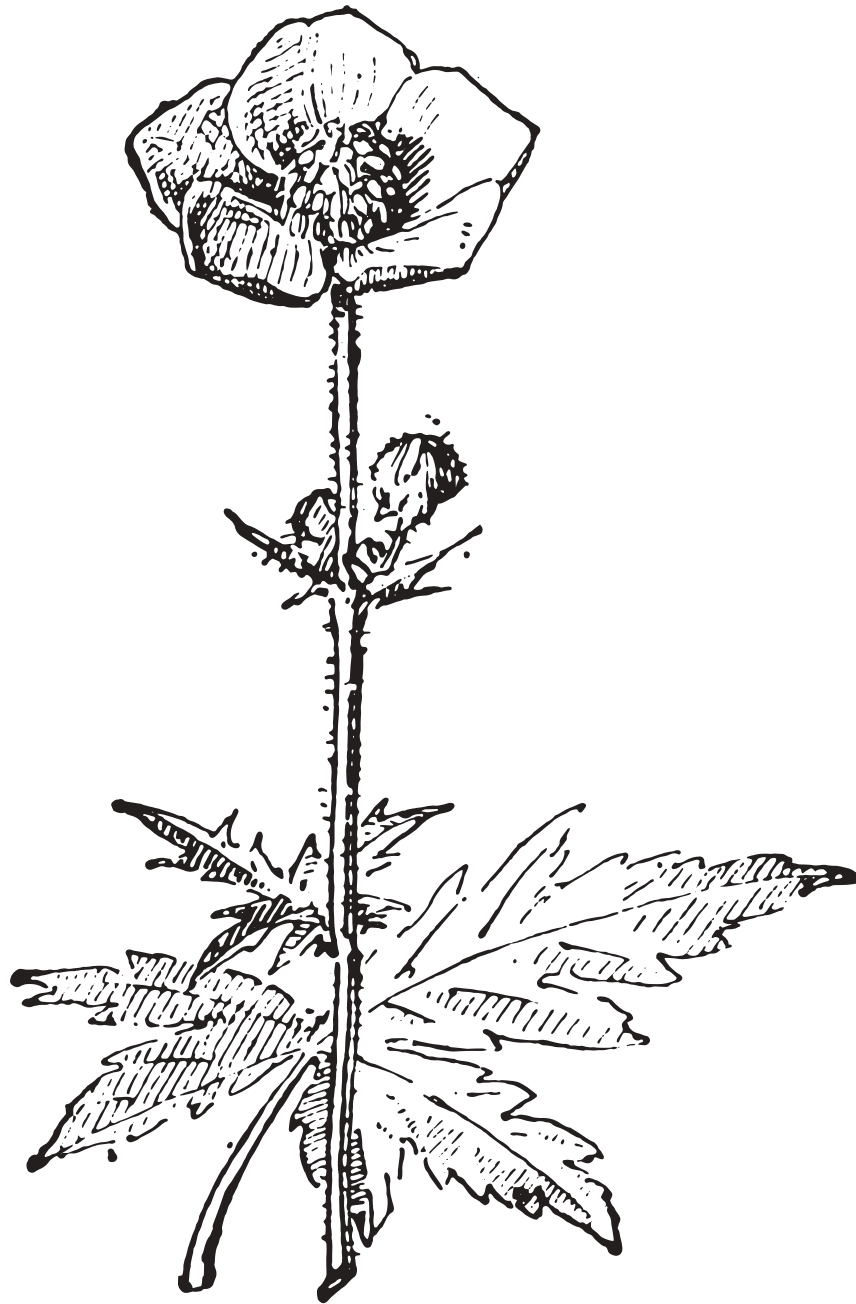
Step 1: Read a short selection about buttercups.

Step 2: In your Nature Journal, on the page you wrote the common and Latin name of the thistle, draw a buttercup.

Step 3: On the same page you drew your buttercup, write down one thing you learned about buttercups from your reading.

Buttercup

Latin: Ranunculaceae



Cultivated Crops and Weeds| Exam Week

Supply List:

1. Nature Journal
2. Pencils and erasers

Step 1: Look through your Nature Journal you created this term. Look at the pages where you recorded information about various cultivated crops and weeds, observations from specific plants you studied and other findings. Spend about 5-10 minutes.

Step 2: Tell your parent all you know about cultivated crops and weeds. You may use your Nature Journal to demonstrate and show examples of what you remember. Be sure to include the most interesting thing that you learned.

(Note to parent: you may choose to write down what your child says or record their narration on video.)

Poems about Crops and Weeds

Topsy-Turvy World

By William Brighty Rands

If the butterfly courted the bee,
And the owl the porcupine;
If churches were built in the sea,
And three times one was nine;
If the pony rode his master,
If the buttercups ate the cows,
If the cats had the dire disaster
To be worried, sir, by the mouse;
If mamma, sir, sold the baby
To a gypsy for half a crown;
If a gentleman, sir, was a lady,--
The world would be Upside-down!
If any or all of these wonders
Should ever come about,
I should not consider them blunders,
For I should be Inside-out!

Ba-ba, black wool,
Have you any sheep?
Yes, sir, a pack-full,
Creep, mouse, creep!
Four-and-twenty little maids
Hanging out the pie,
Out jump'd the honey-pot,
Guy Fawkes, Guy!
Cross latch, cross latch,
Sit and spin the fire;
When the pie was open'd,
The bird was on the brier!

The Shortest Month

By Adeline Whitney

Will Winter never be over?
Will the dark days never go?
Must the buttercup and clover
Be always hid under the snow?

Ah, lend me your little ear, love!
Hark! 'tis a beautiful thing;
The weariest month of the year, love,
Is shortest and nearest to spring.

My Shadow

By Robert Louis Stevenson

I have a little shadow that goes in and out with me,
And what can be the use of him is more than I can see.
He is very, very like me from the heels up to the head;
And I see him jump before me, when I jump into my bed.

The funniest thing about him is the way he likes to grow--
Not at all like proper children, which is always very slow;
For he sometimes shoots up taller like an india-rubber ball,
And he sometimes gets so little that there's none of him at all.

He hasn't got a notion of how children ought to play,
And can only make a fool of me in every sort of way.
He stays so close behind me, he's a coward you can see;
I'd think shame to stick to nursie as that shadow sticks to me!

One morning, very early, before the sun was up,
I rose and found the shining dew on every buttercup;
But my lazy little shadow, like an arrant sleepy-head,
Had stayed at home behind me and was fast asleep in bed.

Resources

Cultivated Crops and Weeds Resources:

[*Handbook of Nature Study*](#) by Anna Comstock

Farm Anatomy by Julia Rothman

Wildflower Folklore by Laura C. Martin

Plant Families by Carol Lerner

Chapter Books:

Cotton in my Sack by Lois Lenski

Strawberry Girl by Lois Lenski

On the Banks of Plum Creek Laura Ingalls Wilder

Nature Lore Book List:

<http://sabbathmoodhomeschool.com/charlotte-mason-living-science/nature-lore-books/>

Nature Drawing help for early elementary:

[*How to Draw Almost Everything*](#) by Chika Miyata

PNEU Articles on Nature Study as inspiration:

<https://www.amblesideonline.org/PR/PR07p332NaturalHistory.shtml>

<https://www.amblesideonline.org/PR/PR41p000CharmNatureStudy.shtml>

Handbook of Nature Study:

Cultivated Crops, p. 591-611

Weeds, p. 512-542

Resources Continued

Supply List:

1. [Minimalism Art sketchbook or Dot grid notebook](#) (This my favorite brand)
2. [Ticonderoga pencils and an eraser](#)
3. [Prisma colored pencils](#) (preferred for younger children)
4. Field Guide
5. *Handbook of Nature Study* by Anna Comstock
6. *Wildflower Folklore* by Laura C. Martin
7. *Farm Anatomy* by Julia Rothman
8. Nature for object lessons
 - a. Clover
 - b. Ear of corn with husk and silk still attached
 - c. Dried cotton boll stem (buy at a craft or online store)
 - d. Strawberries
 - e. Pumpkin
 - f. Dandelion
 - g. Thistle
 - h. Buttercup

Books in the Nature Study Hacking Series

Nature Study Hacking - Trees

Nature Study Hacking - Stars & Skies

Nature Study Hacking - Mammals

Nature Study Hacking - Weather

Nature Study Hacking - Cultivated Crops and Weeds

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