

Nature Nerding Field Cards *(prototype 1)*

The goal of these cards is to inspire curiosity about, connection with, and observation of the natural world in young people. It is my hope that they help your children to look more closely and see things that they would not otherwise - things that make them wonder and want to learn more.

Instructions for parents and care givers

- 1) Choose a spot for your child to “nature nerd.” This can be in the woods during a hike, at a local park, or even in your backyard. All you need is some place where a small person can dig in the dirt, flip over rocks, and explore a bit. The edge regions of parks or yards, near the fence where things are a bit more wild will work fine for younger children.
- 2) Print out the cards following these instructions and cut them out.
- 3) Use the cards as nature challenges for your child. Give them one at a time, a few cards, or the whole pile. Ask them if they can find an item that fits the description on the card. Make sure they know that their item does not have to look anything like the photograph on the card. Depending on age and reading ability of the child, you may need to help them get started with each card.
- 4) If your child is asking questions and wants to know more about the images on the cards, there is a brief description of each photo following the cards this packet. However, the goal of this activity is to get the child looking and investigating and not absorbing information from an adult, so this information is primarily meant to give parents some background information just in case it becomes useful.
- 5) When your “nature nerding” session is over, please fill out the feedback form online where you downloaded this PDF.

Thank you for taking the time to try Nature Nerding with your kids.

I sincerely believe that developing a wilderness ethic in children is important to their emotional and physical well being as well as the overall health of the planet. There are some great resources on the research that backs this up - contact me if you are interested in learning more.

Happy Nature Nerding!

-Heather C. Olins

Use and Distribution

All content in these cards, including photographs, was created by Heather C. Olins. As this product is currently under development, please do not re-distribute, publish, or copy without permission. For information regarding use contact Heather Olins at heatherolins@gmail.com



Can you find something growing on tree bark?



Can you find a color change from **dark** to **light**?



Can you find an insect on a flower?



Can you find something **red**, **brown**, and **green**?



Can you find a tree with holes in it?



Can you find a rock with **black** and **white** stripes?



Can you find something smaller than your hand with 2 arms and 2 eyes?



Can you find an insect that changes its shape?



Can you find a plant growing on another plant?



Can you find something made by an animal?



Can you find something that looks like telling secrets?

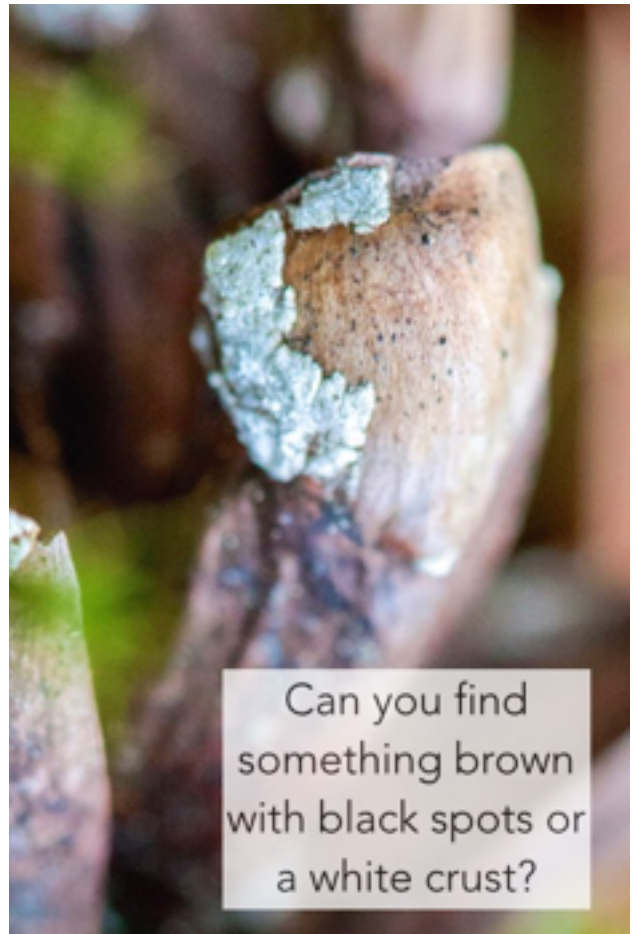


Can you find a white web?

Can you find something that looks like tentacles?



Can you find something brown with black spots or a white crust?



Can you find something sticky?



Can you find something holding on tightly?





Can you find something soft?



Can you find something dry and crunchy?



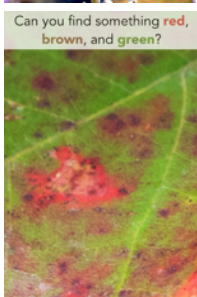
This is a close up of lichen growing on tree back. A lichen is a symbiotic relationship between an algae and a fungi where the algae photosynthesizes to produce energy for both partners and the fungi is able to begin to break down the substance being grown on and provide a physical space to live. Lichens are often the first organisms to colonize new barren habitat (such as a new lava flow, or a bare rock following fire) and eventually help create the first layer of soil that other plants are able to grow in. A rhyme to help you remember lichens "*Alice Algae and Freddie Fungus took a lichen to each other.*"



This is a close-up of a two peony flower petals that are overlapping in a tight ball. Photo taken in my backyard.



This bee is climbing on a purple flower, that I don't know what it is (I took the photo somewhere in Seattle). Most insects on flowers are looking for food but unintentionally pick up pollen along the way, which they bring to the next flower, potentially fertilizing it. Pollinators are not always insects and can also be birds or even bats. This natural pollination system is vitally important for most ecosystems. Some pollination relationships are so specialized that when their pollinators go extinct, so do the plants (this has happened multiple times in Hawaii as native bird species have been decimated by invasive species).



This is a close up of a leaf starting to change color in the fall.



This Western Massachusetts tree has been visited by multiple woodpeckers, who peck holes in its bark looking for food.



While black and white stripes could be found in a lot of different types of rocks, this picture is a rock called Gneiss, which is a metamorphic rock. Generally, stripes or layers in rocks are either a result of exposure to heat and pressure over time (metamorphosis) which causes similar minerals to align together, or a result of small particles being compacted into a hard rock (sedimentation). Generally the granularity or smoothness of the rock will indicate which. This photo was taken on the Maine coast.



This is a small frog found in the Blue Hills just North of Boston. Again, the point of this card is not for the the child to find frogs, necessarily, but to search for small critters in general.



This is a pillbug, also called a Roly Poly. It is a particularly good example of insects that change shape (in this case for protection), but many other insects change shape in other ways. Ask your child why he or she thinks the insect they find may be changing shape. I found this guy in my back yard under a rock. Looking under rocks, logs etc. is a great way to find insects you might miss otherwise.



This is Ivy growing on cedar trees in my back yard. Many plants in the tropics specialize in growing on other trees (these are called Epiphytes). However, you can often find these climbing plants in temperate regions as well.



This is a bird's nest found in an apple orchard in Western Massachusetts. A bird's nest is a particularly obvious example of structures created by animals, but you can often find holes in the ground, piles of debris, or many other things. A spider web is a great way to remind young children that insects are animals too. Ask your child what animal he or she thinks made whatever it is they find, and also why they made it.



This is a closeup of the reproductive structures from a moss plant. While easily missed, they are also easy to find because they stick up above the moss. Again, your child should not be looking for these exact structures, but something else that makes them think of telling secrets. Clearly this is a more abstract card, but hopefully gets your kids thinking a little bit differently.

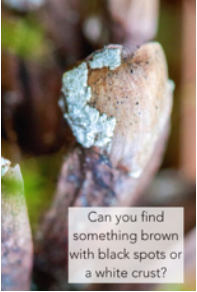


This is a close up of a spider's web on a pine tree in a forest in Ontario, Canada. Ask your child to look for similarities and differences between different spider's webs they find. Also, see if they can find the spider that made the web. They might also find webs not made by spiders.

Can you find something that looks like tentacles?



This is a close up of a part of a moss clump from a forest in Ontario, Canada. Lots of things look very different when you get very close, so encourage your child to look for small details. If your child does not know the word tentacles you could try “Octopus legs.”



Can you find something brown with black spots or a white crust?

This is a close up of a part of a pine cone from a forest in Ontario, Canada. The white crust is a bit of dried sap.



Can you find something sticky?

This is a close up of pine pitch (sap) on the bark of a pine tree from a forest in Ontario, Canada.



Can you find something holding on tightly?

This insect is holding on to a blade of grass. I don't know what kind of insect it is. (again Ontario, Canada)



Can you find something soft?

This is a clump of moss growing on a rock. Similar to lichen, mosses are early colonizers of bare substrate and help create soil that enables larger plants to grow. Unlike lichen, mosses dry out easily and are generally found only in damp areas.



Can you find something dry and crunchy?

These are fallen leaves on a forest floor, but encourage your child to find something different that is also dry and crunchy.