



Bees Please ~ Learning Adventures

Bees have been around for a long time, some fifty million years, so they are a successful and important part of the earth's diverse ecosystems. Honey bees and humans have had a sweet reciprocal relationship for a long time. All kinds of bees assist humans in crop production. In fact, one third of the world's agricultural production is dependent on bee pollination. So maybe it's important to learn about bees. Not just for what they do for humans, but for their key role in the health of all the earth's flora and fauna.

Now, we humans are responsible researchers. Learning about pretty much everything can be an adventure. But first you have to want to find out. So here are some primer questions for you:

- What is the most important thing bees do?
- Are plants, trees and animals dependent on bees? If so, how so?
- What are the habits and habitats of bees?
- How many species of bees are there?
- What types of bees are there in a colony? What are their jobs?
- Do bees communicate with each other? If so, how so?
- Are bees (and the webs of life they are part of) threatened by anything?
- If so, what are the threats to the health of bees and bee colonies?

If you can, start by going outside and observing bees. Where do you find them? What time of year are they most active? How do different kinds of weather affect bees? What do bees like? What don't they like? What are the anatomies of bees and flowers? What is the structure of bee hives? How are they built?

Here are some cool facts about bees to help you in your investigations - AFTER you've done some 'field work':

Bumble Bees vibrate the flower in the note of "C" to shake the pollen off. It's called "sonicating". Bees sonicate the flower to release the pollen.

Honey Bees are a 'super organism' of up to 40-50,000 bees to a colony.
What other creatures live in colonies?

Bees communicate by smell, sound and movement. The dance forager honey bees do is called 'the waggle dance'. What is the pattern of the waggle dance? How does it communicate where the flowers are?

Resin and Propolis are natural antibiotics and disinfectants which contribute to 'hive hygiene'. They also contribute to human healthy immunity.
What are other connections between bees and human health?

Now...a few notes and primers on 'colony collapse'.

There are multiple systemic reasons for bee colony collapse, according to the ongoing researches concerned folks are doing. The root of all of these are post industrial paradigm agricultural practices that simply stated, go against nature. We believe an effective education about bees begins with examples and Simile Theater of healthy bee ecologies. THEN to introduce the systemic threats to bee health.

One of the first principles of healthy ecosystems is: Biodiverse ecosystems thrive! Therefore, the postindustrial model of eliminating biodiversity by industrial scale mono-cultural food crops creates agricultural immunodeficiency food deserts vulnerable to disease and invasion. This only leads to an ever escalating cycle of toxic herbicide, pesticide and insecticide use, which, kill bees. These food deserts (like the almond tree monocrop forests in California) create bizarre imbalances in natural cycles.

- Disease and parasites
- Toxic synthetic chemicals
- Mono cultures
- Flowerless Landscapes

These and other reasons contribute to bee colony collapse. Nothing in nature is isolated. The natural resiliency and immunity of diverse ecosystems are threatened by this obsolete and very unhealthy postindustrial food production and consumption paradigm. Children, of course, are the most vulnerable and susceptible among us UNLESS THEY EXPERIENCE OTHERWISE. That's where natural education comes in.

Biodiversity, creating bee friendly micro ecologies, planting those wonderful nitrogen fixing cover-crops like clover and alfalfa and other bee and butterfly friendly flowers along with not using or contributing to the manufacture and use of toxic herbicides, pesticides, insecticides and fertilizers.

It's all about education.

The honor of educators - that is, parents, teachers, coaches, mentors, counselors, older peers, elders...all of us - is to provide the choices that engender hope, confidence and versatile, value-added responsibility in our younger brothers and sisters.

Enjoy making the song and practical theater, Bee Please.

Here are a few YouTube links to help you explore the world of bees:

<https://www.youtube.com/watch?v=-7ijI-g4jHg>

<https://www.youtube.com/watch?v=2S-ozxpIrdI>

<https://www.youtube.com/watch?v=f6mJ7e5YmnE>

https://www.ted.com/talks/marla_spivak_why_bees_are_disappearing?language=en

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