DON`T BUG OUT!

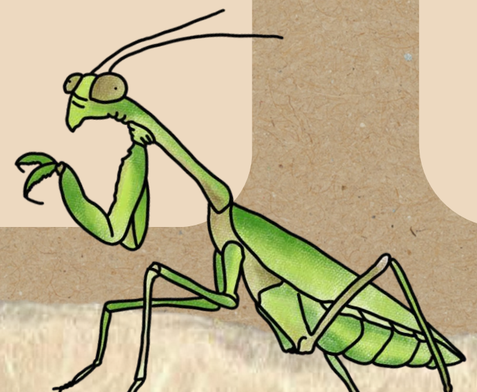
Get Past the Gross with Cool Lessons About the Creepy, Crawly World of Insects, Bugs, and Worms

by Stephanie Hospelhorn

INTRODUCTION

IAITC

- Create standards-based lessons for K-12 teachers
- Provide county-level education coordinators to come into your classrooms
- Teacher Summer Ag Academies throughout the state
- Much More!



ME

Education Specialist: Develop and implement IAITC programming and resource development efforts that assist the IATIC programs, teacher training, and in-service teacher training.

Experience and Education:

Former Middle School Science, ELA, and SS teacher

B.S. Environmental Science and Art

B.A. Middle Level Education

BUGGIN`

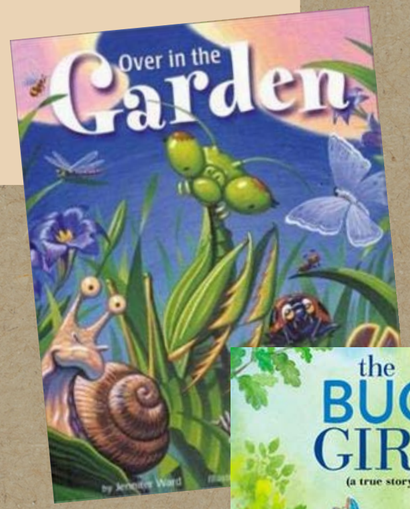
1. Our views on bugs

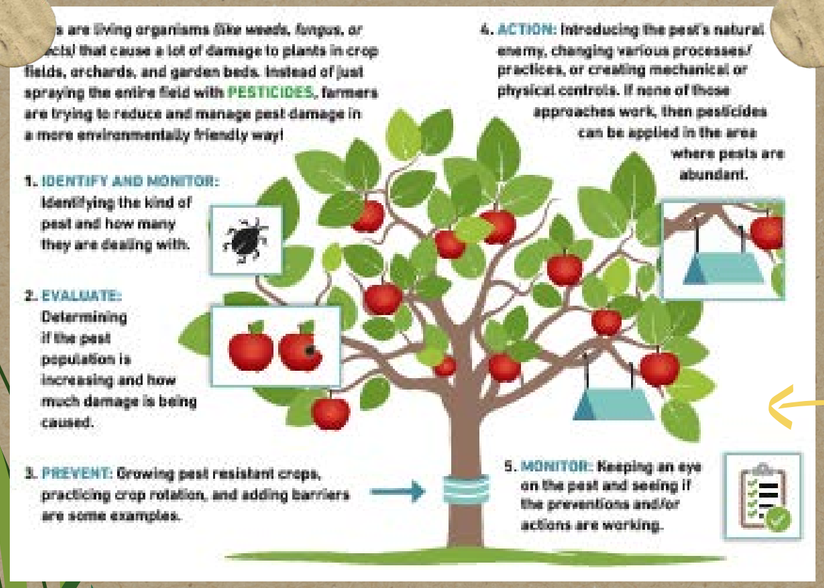
2. Let's test our knowledge!

Do you know your bugs?

Question

Why should we care about bugs?

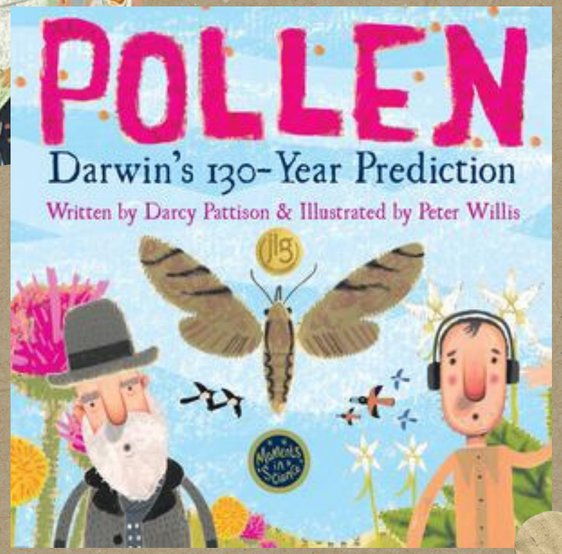


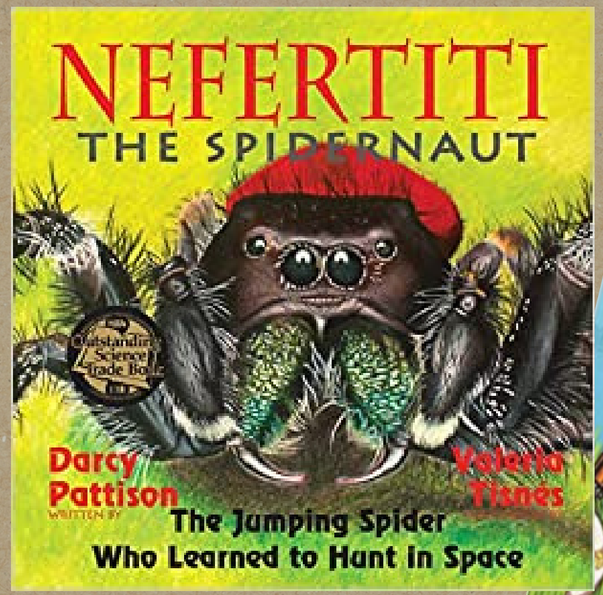


Intregrated Pest Management


I'm just a bug whose
intentions are good
Oh teacher please don't let
me be misunderstood

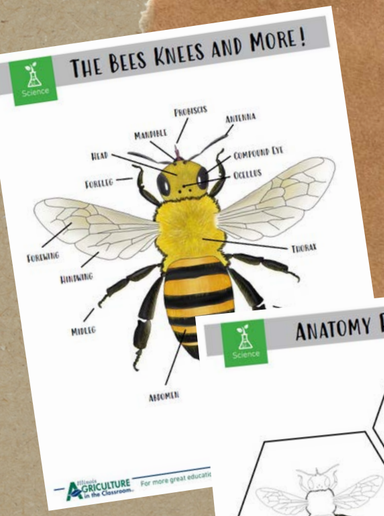

Winged Wonders
SOLVING THE MONARCH MIGRATION MYSTERY
BY MEEG PINCUS
ILLUSTRATED BY YAS IMAMURA

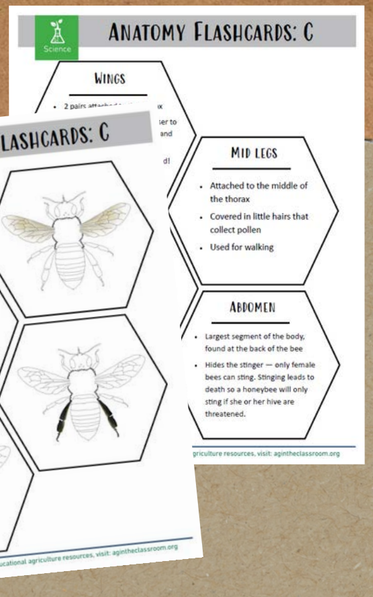

POLLEN
Darwin's 130-Year Prediction
Written by Darcy Pattison & Illustrated by Peter Willis

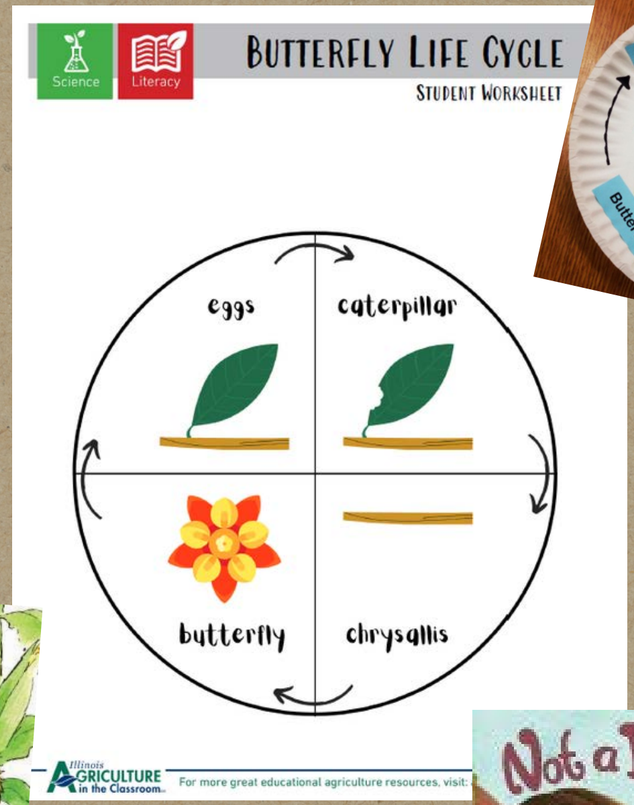

NEFERTITI
THE SPIDERNAUT
Darcy Pattison
Valeria Tisnés
The Jumping Spider Who Learned to Hunt in Space

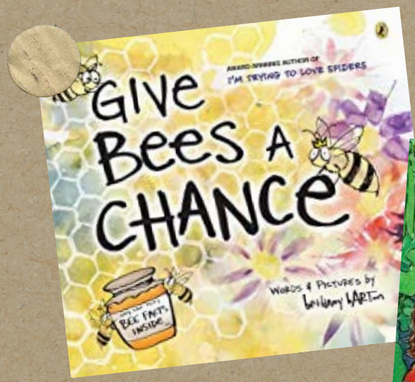

BUZZING WITH QUESTIONS
The Inquisitive Mind of Charles Henry Turner
JANICE N. HARRINGTON
THEODORE TAYLOR III

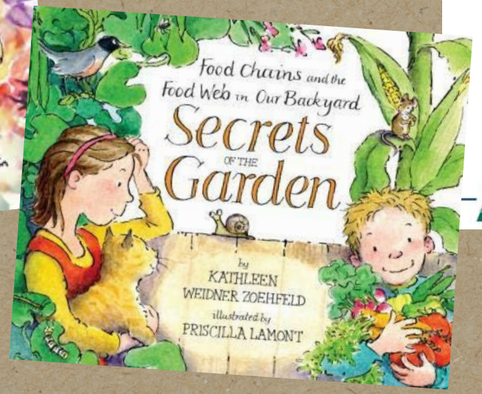
POLLINATORS

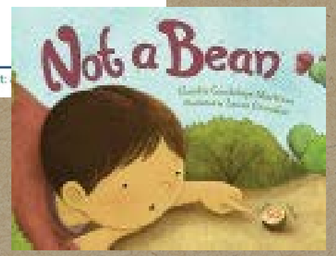












HABITATS

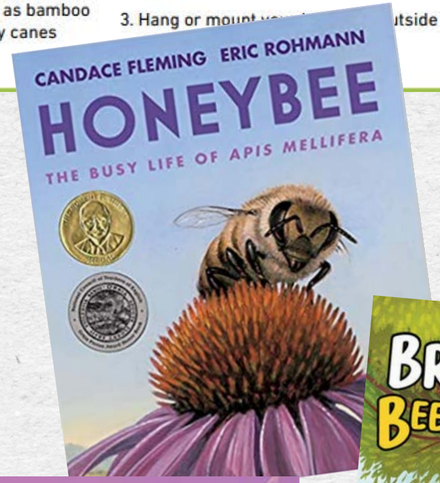
Build a Bee Hotel

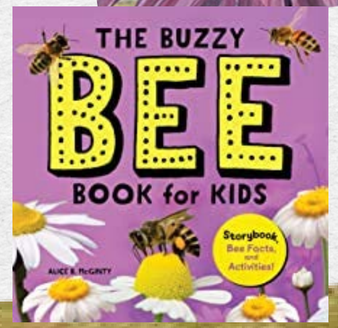
Create more habitat for native solitary bees by building them a bee hotel! Be sure to ask an adult for help when you use power tools.

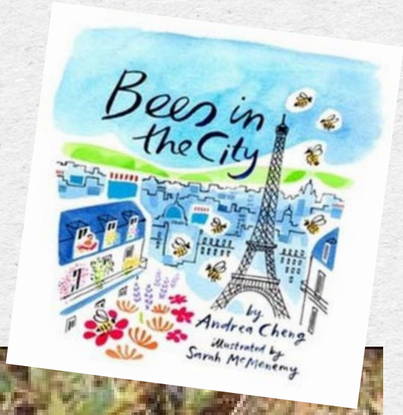
You will need:

- A waterproof container, such as a milk carton, small bucket, old crate, or a pipe
- Wood blocks or logs
- Straws or natural stalks, such as bamboo or raspberry canes

1. Use a power drill to drill holes into the wood blocks. The holes can range in size from 1/8" to 1/4" in diameter. Try to drill the holes 6" to 12" into the wood blocks.
2. Arrange the wood blocks in your container with the holes facing outward. Add the straws or stalks into the remaining empty spaces.
3. Hang or mount [illegible] utside and



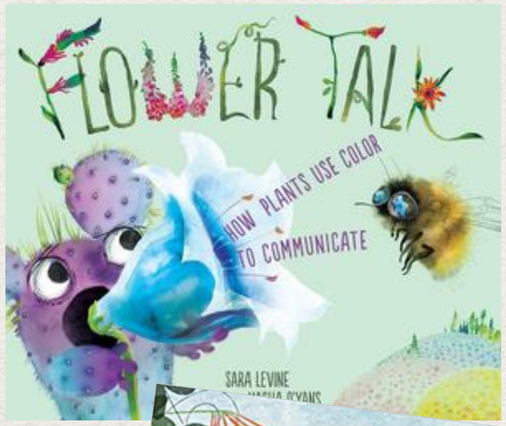




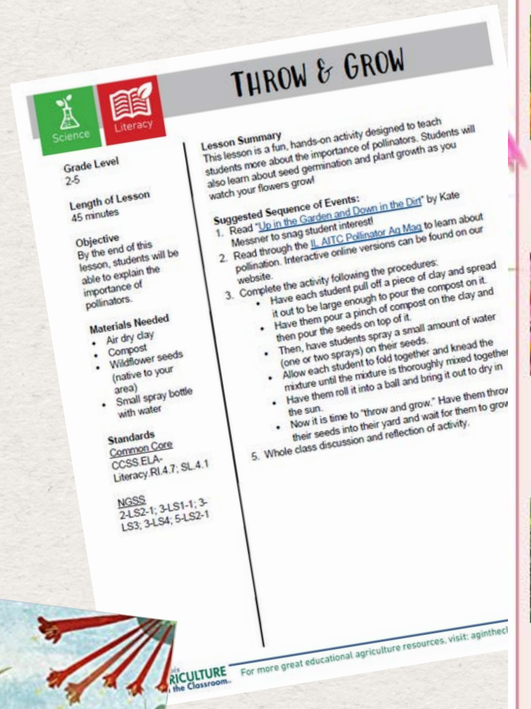
GROUND DWELLING BEES NESTS

HABITATS


Planning your garden – think like a pollinator.
Go Native. Pollinators are "best" adapted to local, native plants, which often need less water than ornamentals.
Bee Bountiful. Plant big patches of each plant species (better foraging efficiency.)
Bee Showy. Flowers should bloom in your garden throughout the growing season. Plant willow, currant, and Oregon grape for spring and aster, rabbit brush and goldenrod for fall flowers.
Bee Patient. It takes time for native plants to grow and for pollinators to find your garden, especially if you live far from wild lands.
Bee Gentle. Most bees will avoid stinging and use that behavior only in self-defense. Male bees do not sting.
CHEMICAL FREE GARDEN
Bee Chemical Free. Pesticides and herbicides kill pollinators.
Bee Sunny. Provide areas with sunny, bare soil that's dry and well-drained, preferably with south-facing slopes.
Bee Homey. Make small piles of branches to attach chrysalis or cocoons. Provide hollow twigs, rotten logs with wood-boring beetle holes and bunchgrasses and leave stumps, old rodent burrows, and fallen plant material for nesting bees. Leave dead or dying trees for woodpeckers.
Bee Friendly. Create pollinator-friendly gardens both at home, at schools and in public parks. Help people learn more about pollinators and native plants.
Bee Aware. Observe pollinators when you walk outside in nature. Notice which flowers attract bumble bees or solitary bees, and which attract butterflies.
Bee a little messy. Most of our native bee species (70%) nest underground so avoid using weed cloth or heavy mulch.
Bee Diverse. Plant a diversity of flowering species with abundant pollen and nectar and specific plants for feeding butterfly and moth caterpillars.


FLOWER TALK
HOW PLANTS USE COLOR TO COMMUNICATE
SARA LEVINE

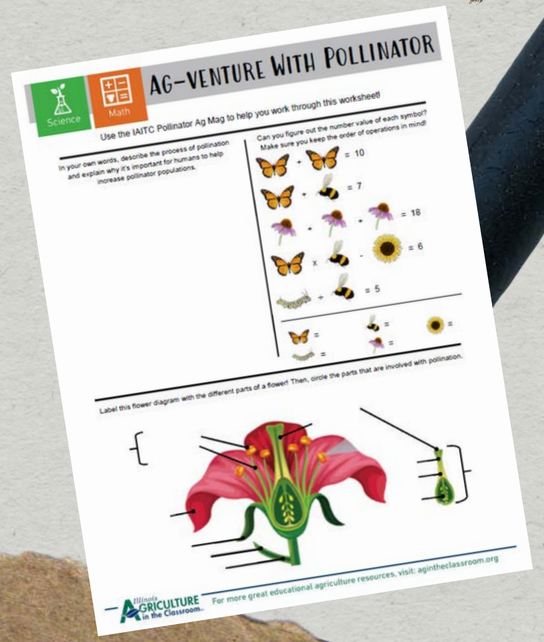

FLOWERS ARE CALLING
WORDS by RITA GRAY PICTURES by KENARD PAK

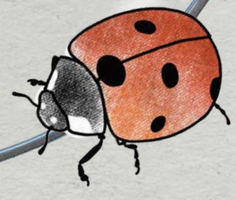

Science
Literacy
THROW & GROW
Grade Level
2-5
Length of Lesson
45 minutes
Objective
By the end of this lesson, students will be able to explain the importance of pollinators.
Materials Needed
Air dry clay
Compost
Wildflower seeds (native to your area)
Small spray bottle with water
Standards
Common Core
CCSS.ELA-Literacy.RI.4.7; SL.4.1
NGSS
2-LS2-1; 3-LS1-1; 3-LS3; 3-LS4; 5-LS2-1
Lesson Summary
This lesson is a fun, hands-on activity designed to teach students more about the importance of pollinators. Students will also learn about seed germination and plant growth as you watch your flowers grow!
Suggested Sequence of Events:
1. Read "Up in the Garden and Down in the Dirt" by Kate Messner to snag student interest!
2. Read through the IL AITC Pollinator Ag Mag to learn about pollination. Interactive online versions can be found on our website.
3. Complete the activity following the procedures:
Have each student pull off a piece of clay and spread it out to be large enough to pour the compost on it.
Have them pour a pinch of compost on the clay and then pour the seeds on top of it.
Then, have students spray a small amount of water (one or two sprays) on their seeds.
Allow each student to fold together and knead the mixture until the mixture is thoroughly mixed together.
Have them roll it into a ball and bring it out to dry in the sun.
Now it is time to "throw and grow." Have them throw their seeds into their yard and wait for them to grow!
5. Whole class discussion and reflection of activity.
RICULTURE in the Classroom
For more great educational agriculture resources, visit: agintheclassroom.org

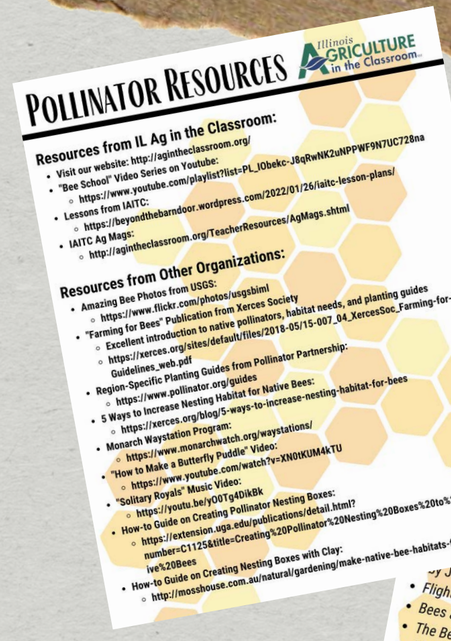

NATIVE FLOWERS
A native plant is one that has been a part of the balance of nature for hundreds or thousands of years. Only plants found in our country before European settlement are considered to be native to the United States. The native plants of the Midwest help support a diverse group of pollinators. Illinois is a vital breeding area for the monarch butterfly and is home to hundreds of other pollinator species. Our natural world relies on pollination, but so does our agricultural industry. So much of what we eat would not be available without the help of pollinators.
You can help our diverse pollinator populations by planting native plants and flowers in your landscape that provide food and shelter throughout the year. Try to plant at least three different flowering plants for each part of the growing season. You should also aim for a variety of colors and flower shapes to attract a diversity of pollinators. This will help ensure that pollinators always have a food source in your neighborhood. There are hundreds of plants and flowers that you could plant in your landscape that can help pollinators. Here are a few easy plants to get started with.
Butterfly Weed: The butterfly weed has reddish-orange blossoms that open in early summer. Expect hummingbirds and butterflies to be drawn to this flower.
Joe Pye Weed: This is a tall woodland plant that shows off clusters of pink or purple flowers from July to September. Butterflies and bees love its nectar and birds like goldfinches and mourning doves will visit to eat the seeds.
Echinacea: These flowers include many varieties of coneflowers and rudbeckia. The blooms can range from purple to orange to pink. Flowers will continue throughout the summer. Hummingbirds and butterflies feed on this flower's nectar and goldfinches eat its seeds.
Bee Balm: Bee balm flowers will grab attention with their unique spidery dark pink, red, or purple blossoms. As the name suggests, bees love the flowers, but butterflies and hummingbirds do as well.
Switchgrass: Switchgrass is a prairie grass that is shaped like a fountain. The foliage is blue-green in the summer and then changes to golden-red in the fall. Many insects, including butterflies, lay their eggs on native grasses.
Goldenrod: The mustard yellow flowers of goldenrod are a beautiful sight from late summer to late fall. This late blooming flower provides a much-needed nectar source for many species of bees and butterflies at a time of year when not many other flowers are producing nectar.

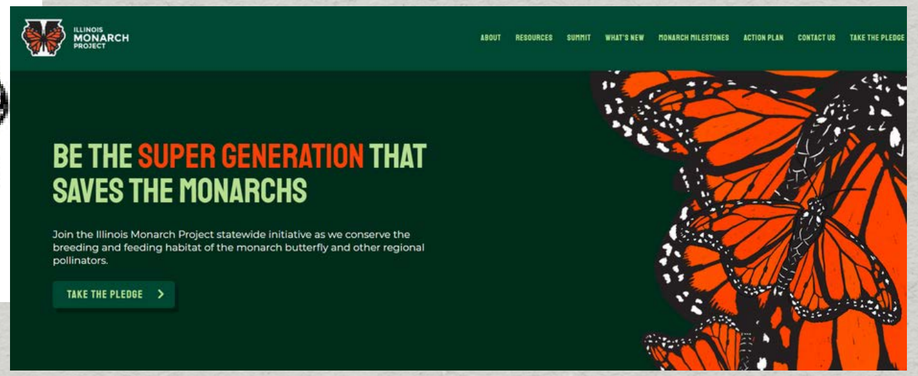
ADDITIONAL RESOURCES

IAITC Video Series



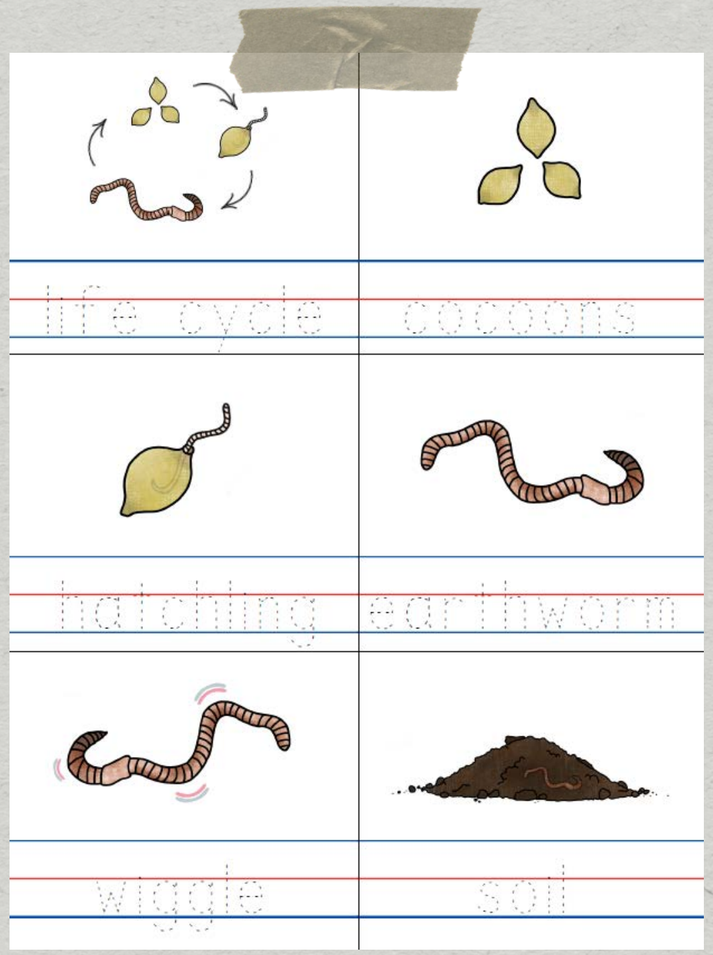


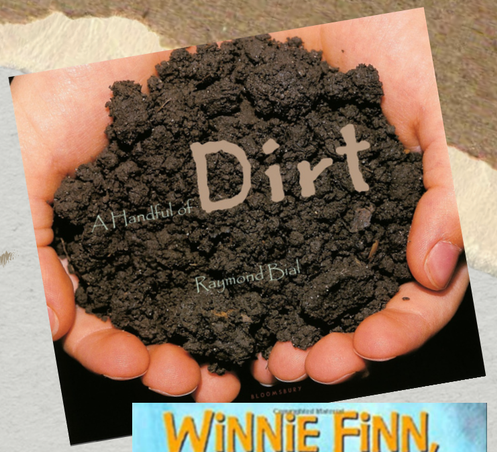


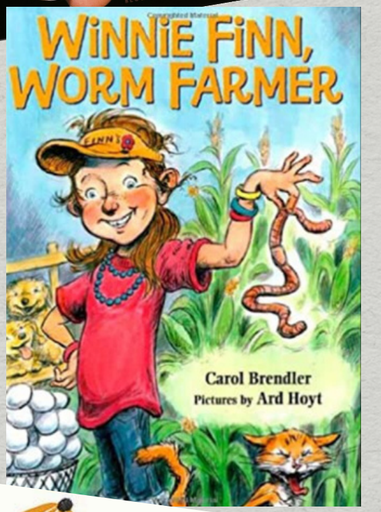


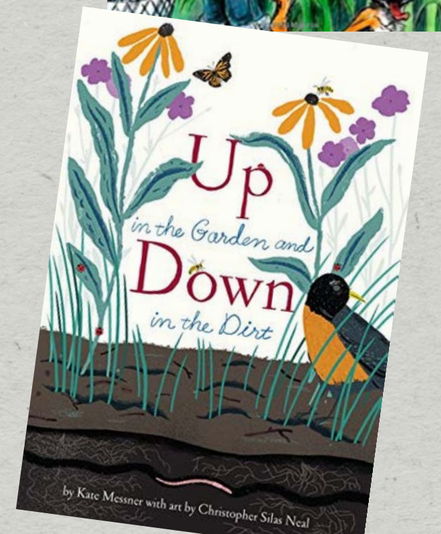
DECOMPOSERS

SOIL YOUR UNDIES



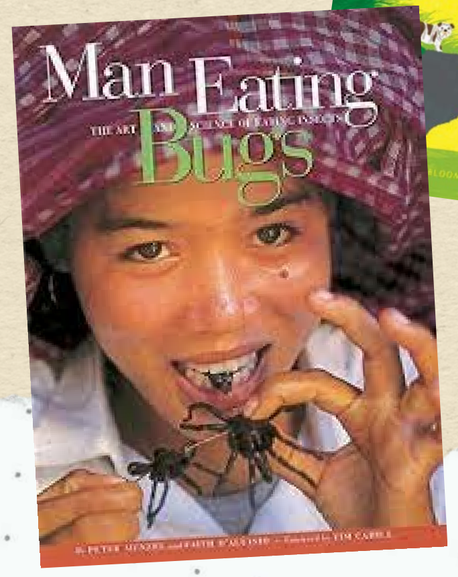






ENTOMOPHAGY

The practice of eating insects.



Enter for a chance to win a book bundle!

THANK YOU!

Social Media

@agintheclassroom

@ilaitc

@ilagclass