



# Cultivate Community with Ag Literacy

*Chris Wyant, Education Manager - IAITC*



# *For Today...*

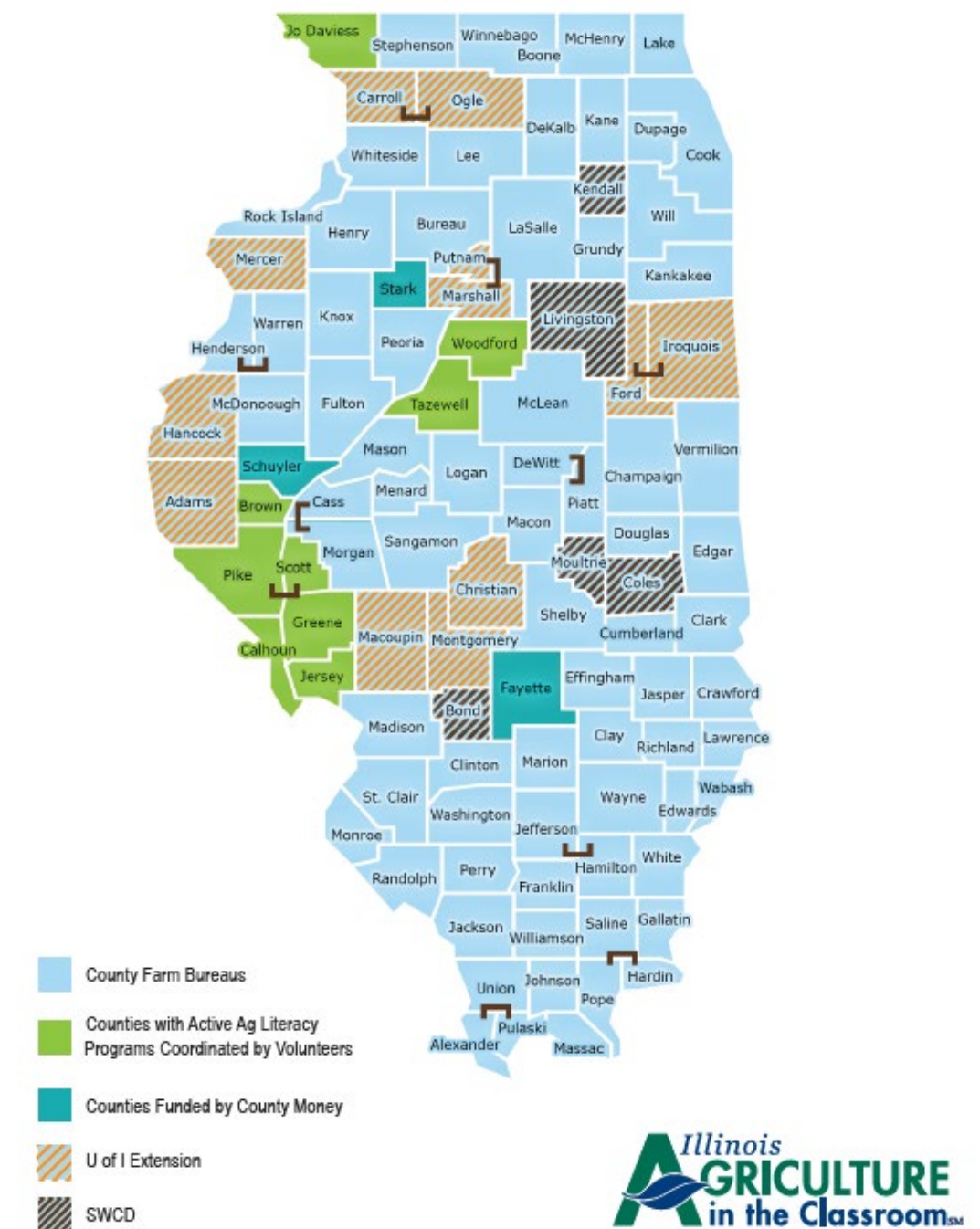
- Overview of IAITC
- Resources for your Farm & Community
- Interactive Lesson Examples
- Tips for Agritourism on your Farm/Market
- How you can help with ag literacy in IL



# What is IL Ag in the Classroom?

- Coalition of partners across state working directly with students and teachers
- +/- 90 County -Level Ag Literacy Coordinators
- Coordination, Training, and Grant Funding from IAITC

Illinois Agricultural Literacy Funding September 2023



# Resources

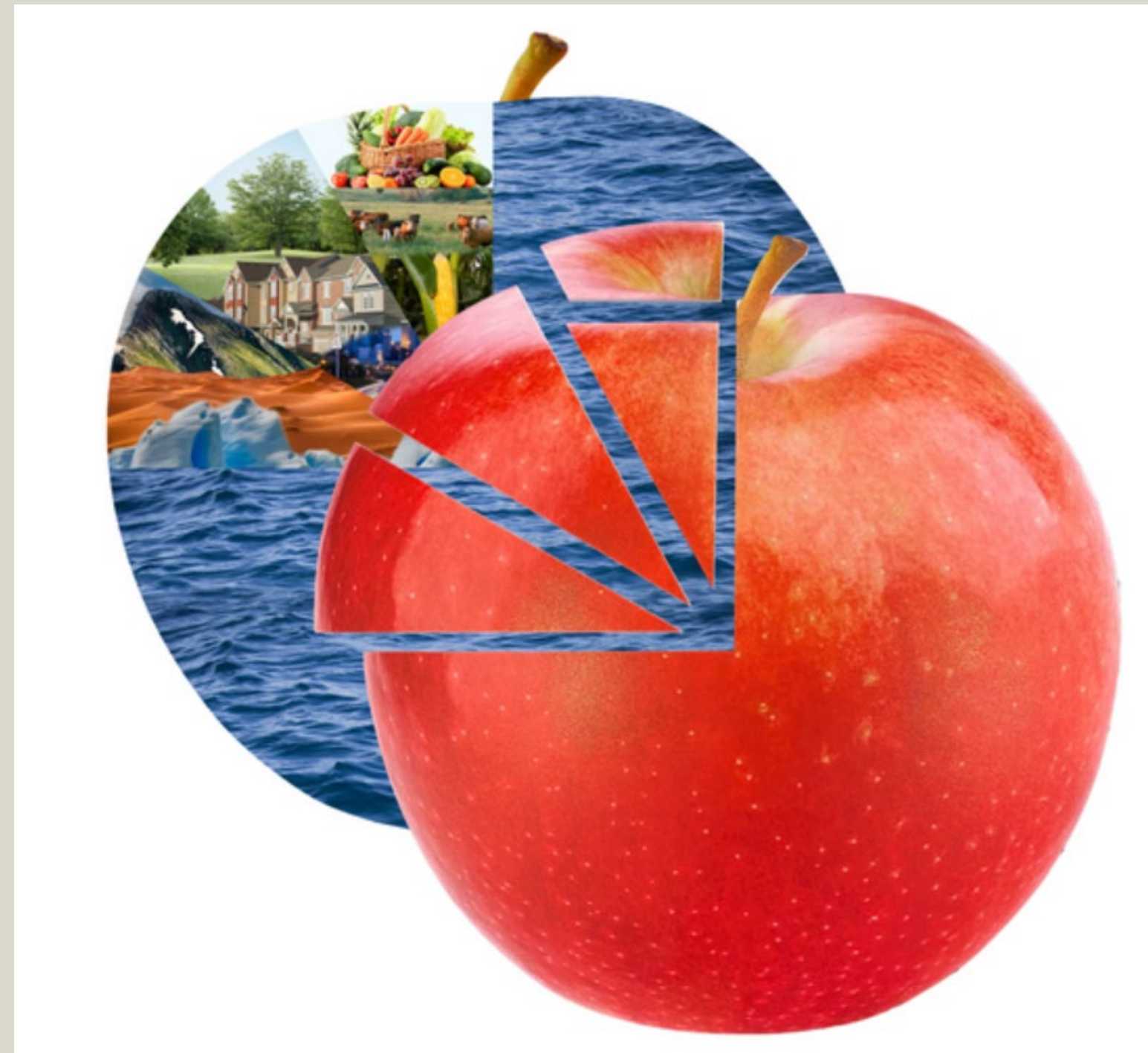
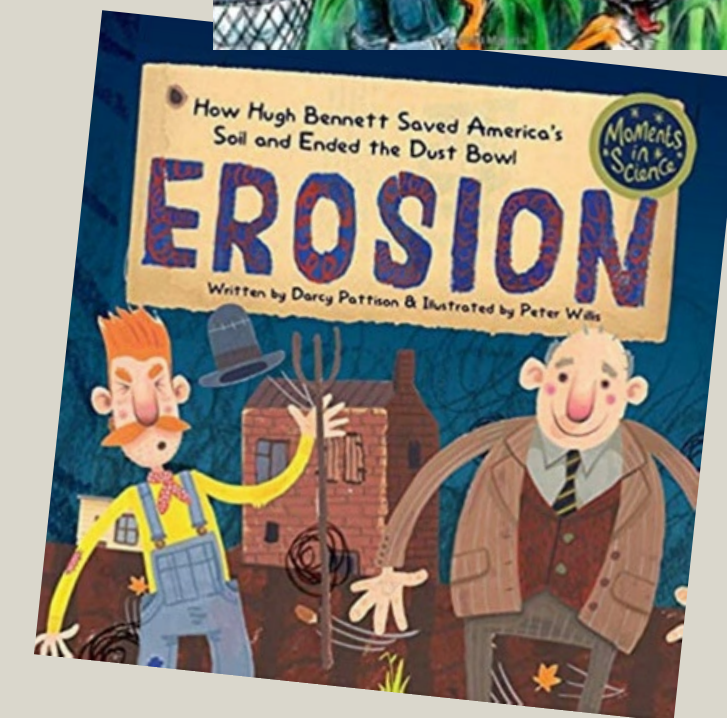
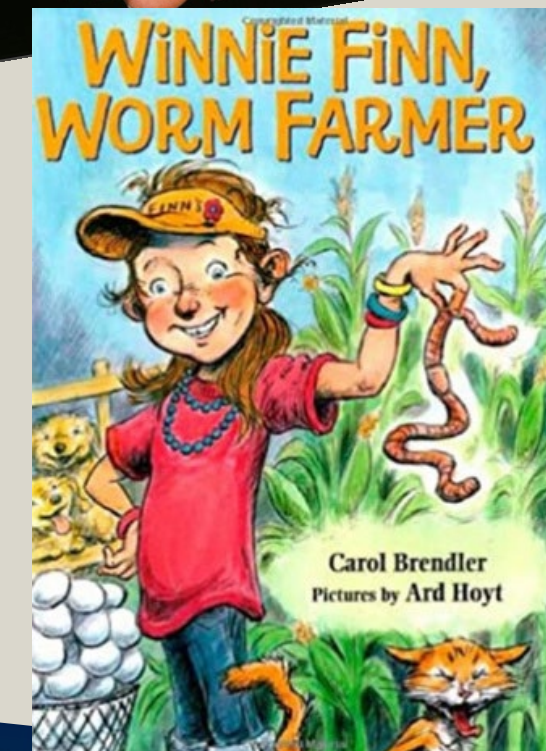
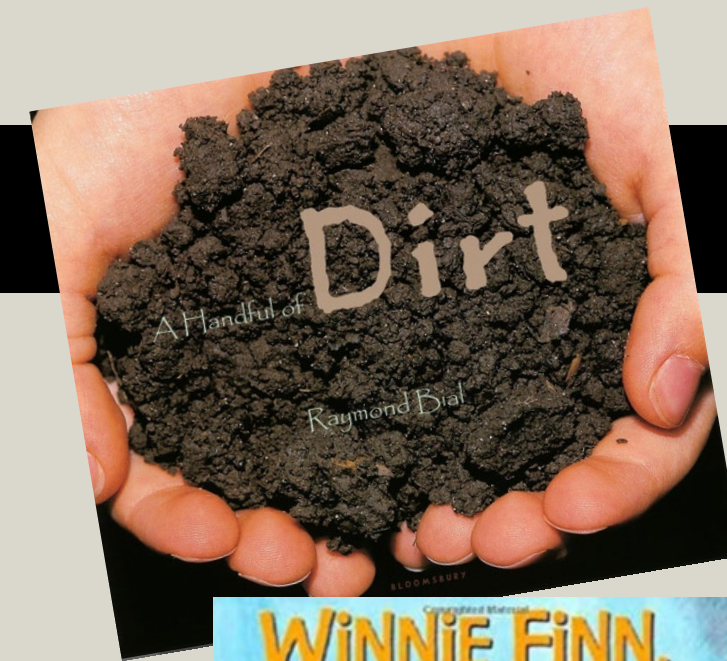


# Key Ag Lit Concepts

- Plant life cycles
- How food is grown/produced
- How food gets from farm to table
- The importance of agriculture to our daily lives
- Careers in agriculture
- How ag connects with other school subjects
- Soil Health
- Other ideas?



# A Slice of Soil



Summary

www.agclassroom.org



Earth



75% Water



Inhospitable Land



Habitable Land  
(houses, roads, open areas)

25% Land

Agricultural Land

Land used for food crops



Livestock feed and grazing

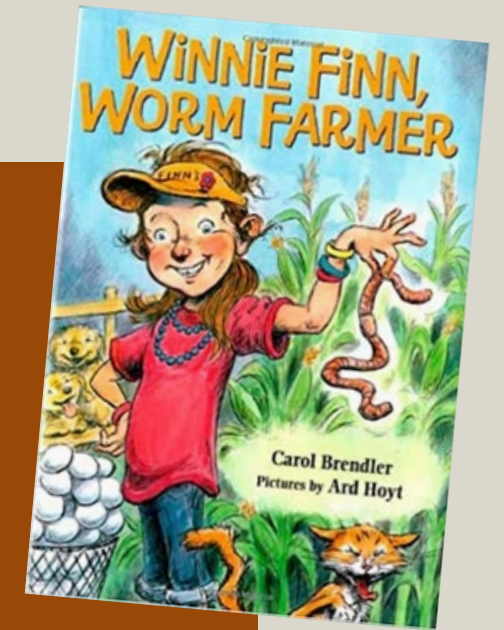


# Composting

About 20 % of discarded waste is food. If we composted this waste, we could remove millions of tons of waste from landfills every year!

## Benefits:

- Enriches soil while helping retain moisture and suppress plant pests and diseases
- Reduces need to chemical fertilizers
- Reduces methane emission from landfills
- Reduces your carbon footprint!



ALTERNATE **GREEN** AND **BROWN** LAYERS, SPRINKLE IN **BLUE** (WATER)

## GREENS

- Vegetable scraps
- Fruit peels/rinds
- Grass clippings
- Coffee grounds
- Flowers/leaves
- Hair/fur

## BROWNS

- Dry leaves
- Wood chips/twigs
- Hay/straw
- Egg shells
- Carboard
- Shredded newspaper

## NO

- Dairy products
- Fats/grease/oils
- Meat/fish scraps
- Pet waste



DISPOSAL/RECYCLING SERVICES

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# Composting



# Core Sampling



**PLAY-DOH CORE SAMPLING**  
INTRODUCTION TO SOILS

You might think that all soil is the same, but that is just not true! Soil is a complex and amazing substance that we depend on for our very existence. Let's learn a little bit about the soil under our feet.

**Soil Particles**  
Soil is made up of organic matter (once living plant and animal matter, mineral particles (sand, silt, and clay), and pore spaces (open areas potentially filled with air, water, and living organisms).  
The percentage of the sand, silt, and clay particles in a soil determines the soil's texture. To the human eye, these particles all seem small, but they are actually very different in size. If you imagine that a sand particle is the size of a basketball, then a silt particle would be the size of a golf ball, and a clay particle would be the size of a dot made by a piece of chalk!

**SAND**  
2.0 TO 0.05 MM

**SILT**  
0.05 TO 0.002 MM

**CLAY**  
less than 0.002 mm

**Soil Layers**  
Soil is also divided into layers. The depth of each of these layers is important when considering what different areas of land can be used for. Most agriculture production takes place on the top 12 inches or so of soil. Farmers and ranchers must work hard to maintain the health of the topsoil so their lands will continue to produce food for the world to eat! Let's learn more about the soil layers.

**Humus layer:** Top layer of decomposing matter, such as leaves. This layer can be thick in some soils, thin in others, or even not present at all.

**Topsoil:** This layer is made up of mineral particles (sand, silt, and clay) along with organic matter. This layer is extremely important for agriculture.

**Subsoil:** This layer is rich in minerals that have moved down from the layers above it, but it is much more compact than the topsoil.

**Parent Material:** This layer is made up of deposits at the surface of the Earth which the layers above it have been made from over time.

**Bedrock:** This is a layer of rock, such as granite, basalt, quartzite, limestone or sandstone.

Illinois AGRICULTURE in the Classroom. For more great educational agriculture resources, visit: [agintheclassroom.org](http://agintheclassroom.org)

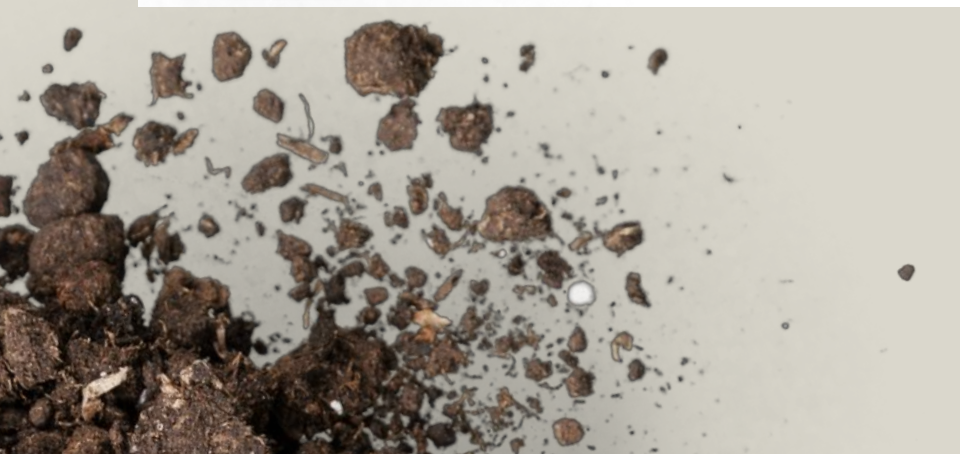
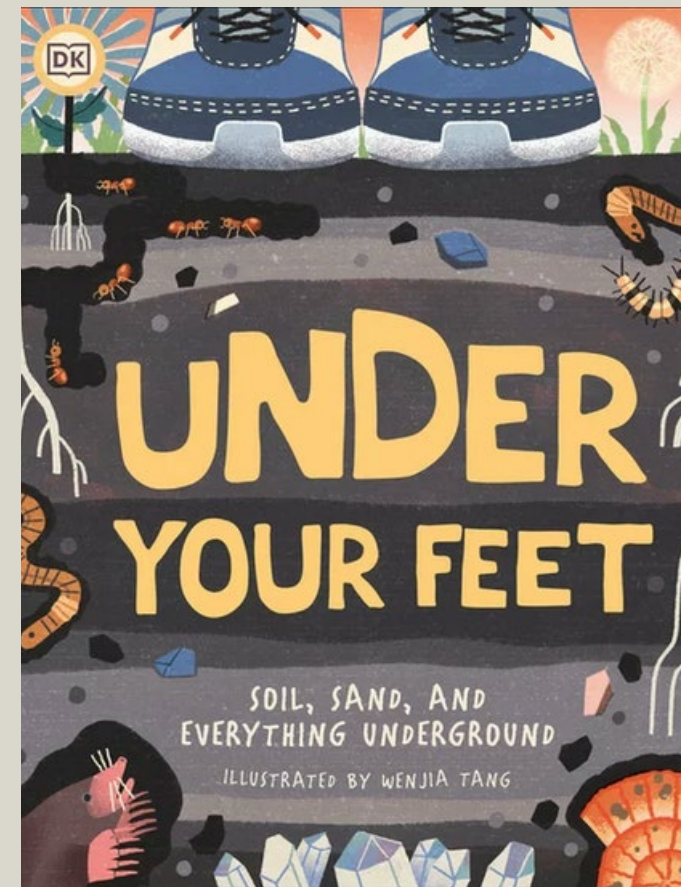
**CANDY CORE SAMPLING**  
STUDENT WORKSHEET

**Directions**

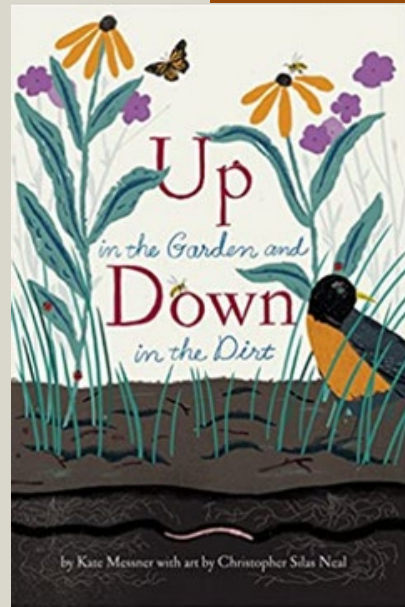
1. Label the boxes below with the type of candy bar you have taken a core sample from.
2. Using your colored pencils, draw the core sample from each candy bar.
3. To the best of your ability, label the layers of candy.

<b>CANDY BAR 1:</b>	<b>CANDY BAR 2:</b>
Core Sample Layers	Core Sample Layers
<b>CANDY BAR 3:</b>	<b>CANDY BAR 4:</b>
Core Sample Layers	Core Sample Layers

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# Soil Your Undies



- Keep "clod" intact
- Record observations of layers of soil, critters, roots, and fungi present at different depths

- Collect soil samples
- Add a rain gauge and thermometer to location
- Take pictures of surrounding environment

Dig up after 60 days!

How much of your underwear decomposed?

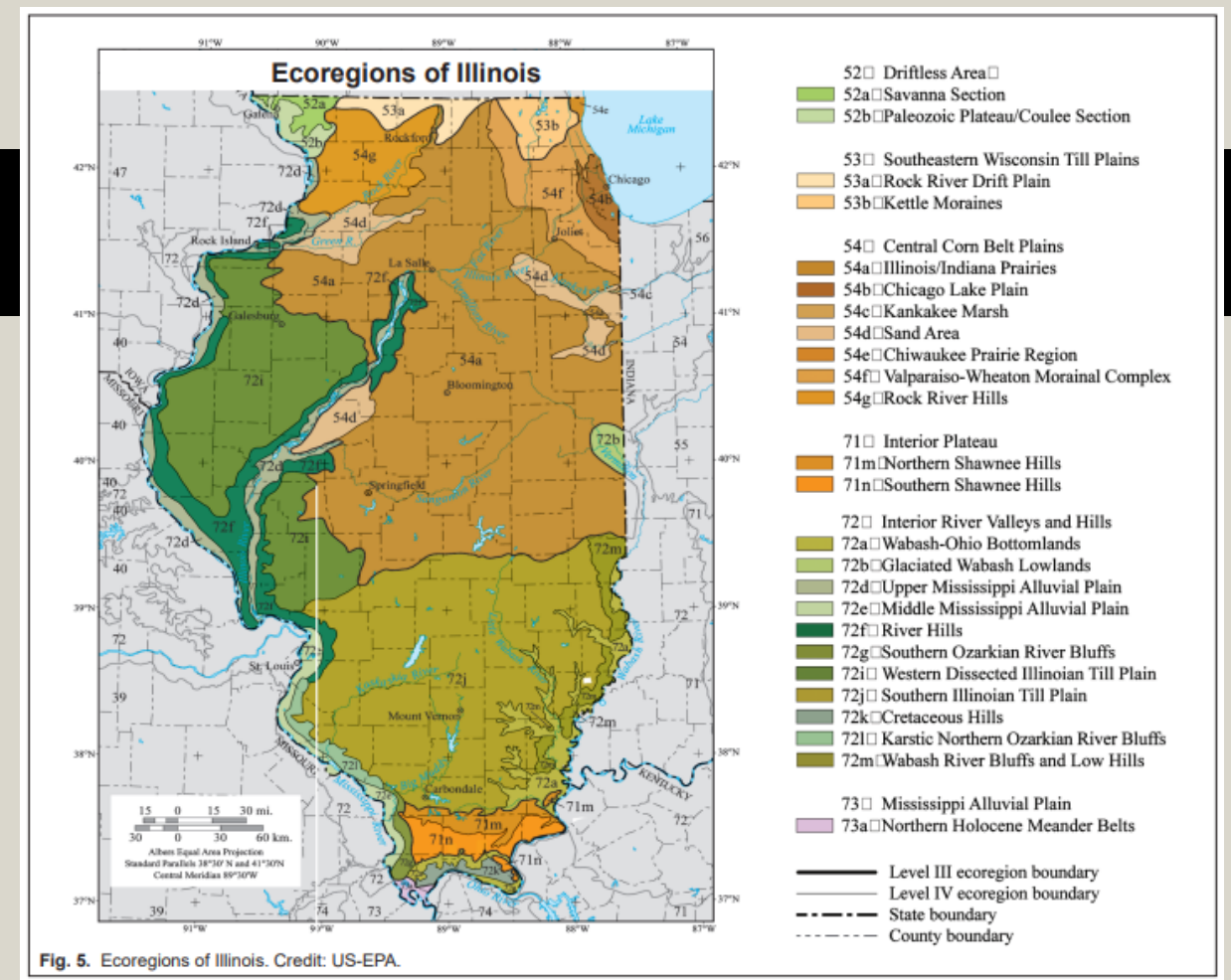




Fig. 5. Ecoregions of Illinois. Credit: US-EPA.

www.soils4teachers.org



# Throw & Grow

 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

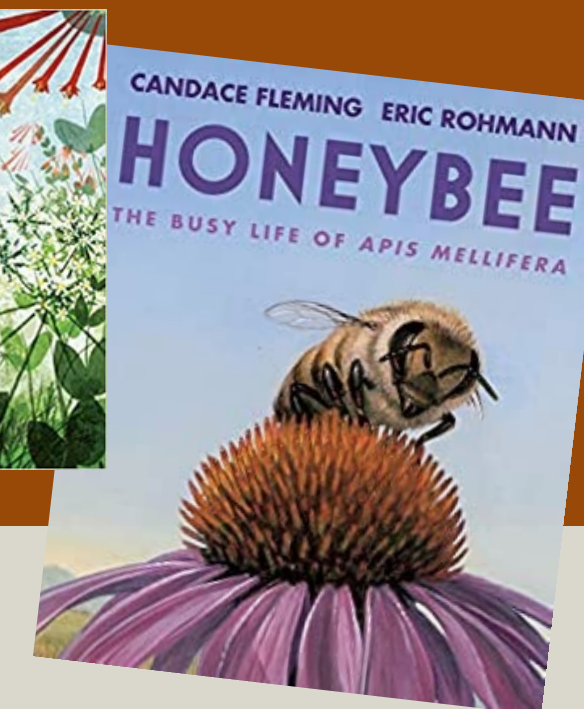
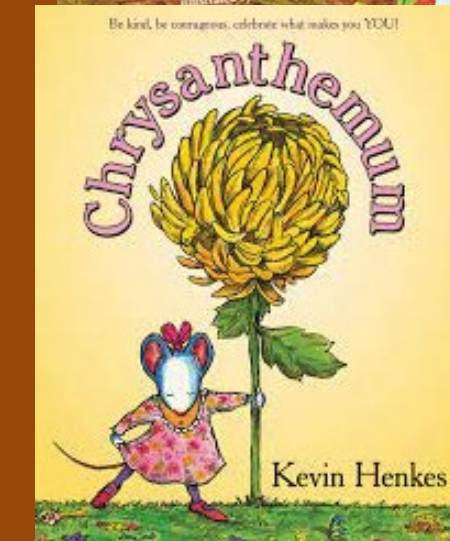
**Standards**  
Common Core  
CCSS.ELA-Literacy.RI.4.7; SL.4.1

NGSS  
2-LS2-1; 3-LS1-1; 3-LS3; 3-LS4; 5-LS2-1

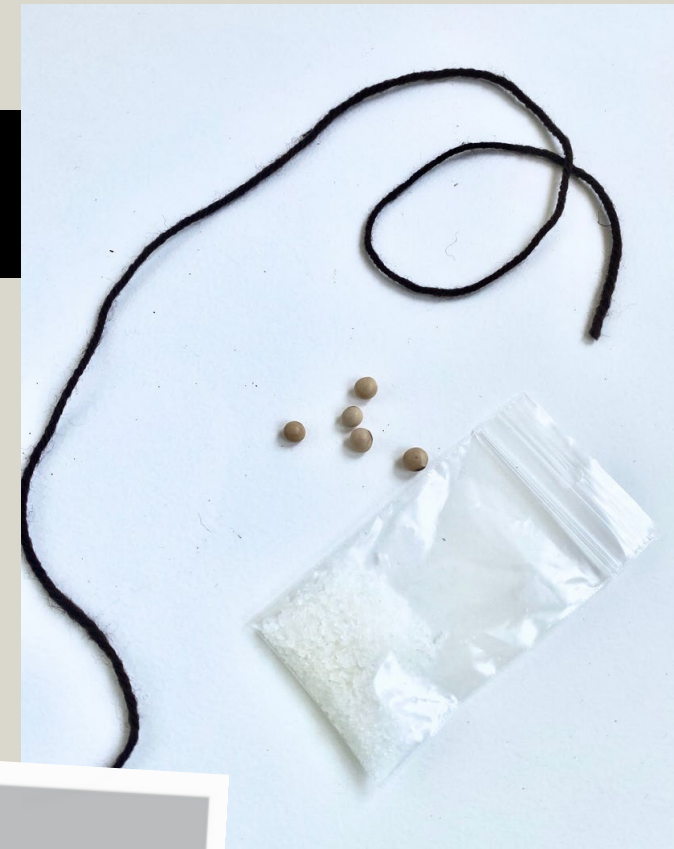
**Lesson Summary**  
This lesson is a fun, hands-on activity designed to teach students more about the importance of pollinators. Students will also learn about seed germination and plant growth as you watch your flowers grow!

**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.



# Beanie Baby



**BEANIE BABY STUDENT WORKSHEET**

**Background Information**  
Soybeans are small, round seeds, each with a tiny hilum and made up of three basic parts. Each soybean has a seed coat, cotyledon, and the embryo. Each soybean plant generally reaches a height of 1 m (3.3 feet) and takes 80-120 days from sowing to harvesting. So how does a seed turn into a plant? Let's find out!

What does a seed need to start growing?

<u>Think</u>	<u>Pair</u>	<u>Share</u>
--------------	-------------	--------------

**Materials**

- 1 jewelry size resealable baggie
- Measuring spoons
- 1/4 teaspoon of Crystal Soil
- 1-2 tablespoons of water
- 2 soybeans
- 1 piece of yarn

**Procedures**

1. Open your jewelry-sized baggie.
2. Measure 1/4 teaspoon of the Crystal Soil and carefully dump it into your baggie.
3. Gently push your 2 soybeans into the Crystal Soil.
4. Carefully measure 1-2 tablespoons of water and pour into your baggie.
5. Seal your baggie firmly and make sure there are no leaks!
6. Insert one end of your yarn piece through the hole in the baggie and tie the end the yarn in a knot.
7. Wear your beanie baby like a necktie and tuck it into your shirt (it's a little at first!).
8. Check on your beanie baby several days to observe germination and its growth!

Make a Prediction!  
How long will it take for your seed to germinate?

For more great educational agriculture resources, visit: [aginthe.org](http://aginthe.org)

**BEANIE BABY STUDENT WORKSHEET**

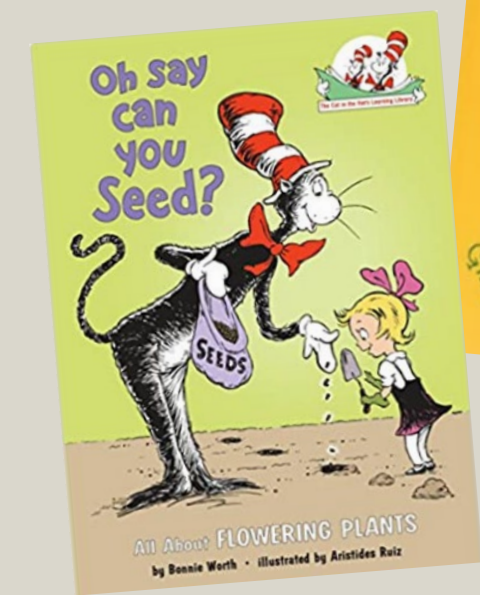
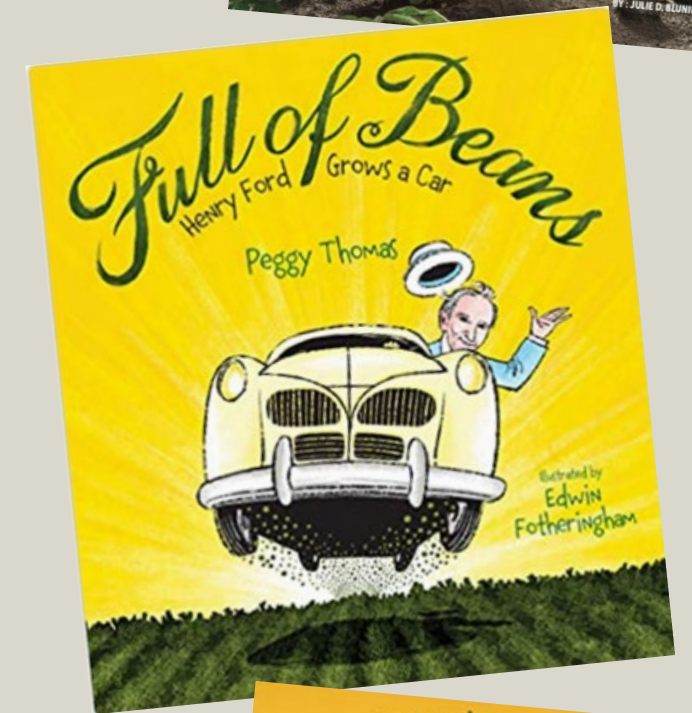
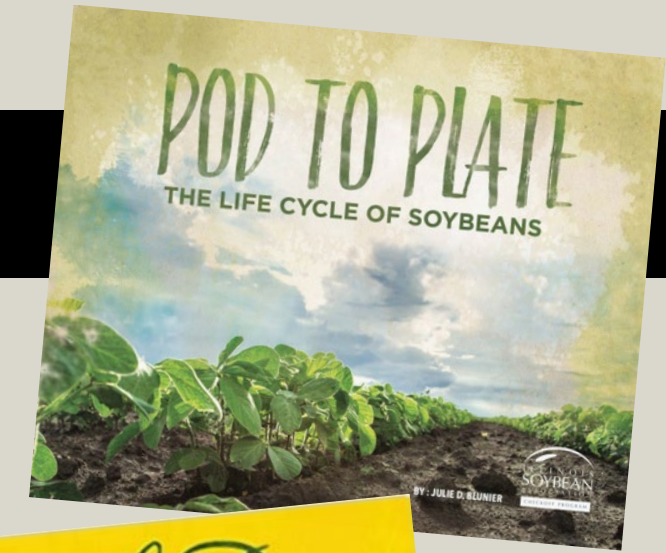
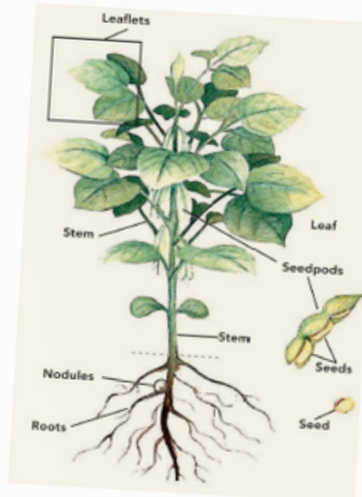
**Vocabulary**

**Cotyledon:** a seed leaf stored in a seed which are the first leaves the plant will have.  
**Embryo:** part of a seed that develops into a new plant, including the stem, leaves, and roots.  
**Germination:** the phase of plant growth when the seed begins to sprout.  
**Hilum:** the scar on a seed marking the point of attachment to its seed vessel (the brown spot).  
**Radicle:** the lower part of the axis of the embryo, the primary root.  
**Seed Coat:** the outside cover that protects the seed.  
**Seed Pod:** a structure that holds seeds. Each pod typically holds 3-4 beans.  
**Soybean Oil:** a pale yellow oil derived from soybeans by solvent extraction. Used as a food and in the manufacture of soap, candles, inks, paints, varnishes, etc.  
**Stem:** the main stalk of the plant.  
**Taproot:** a main root descending downward from the radicle and giving off small lateral roots.

**Observe, measure, record!**  
Use the table below to record your data.

Day	Measurement in cm	Observations

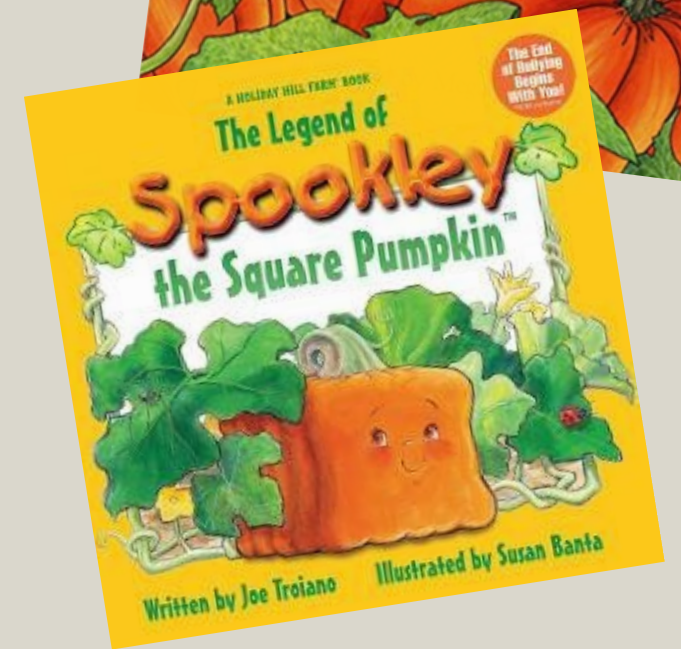
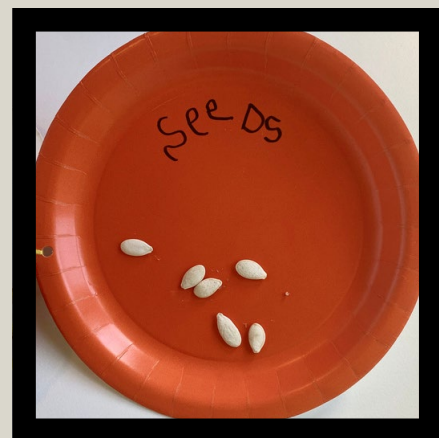
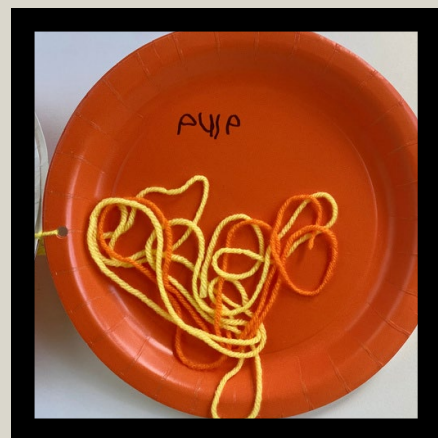
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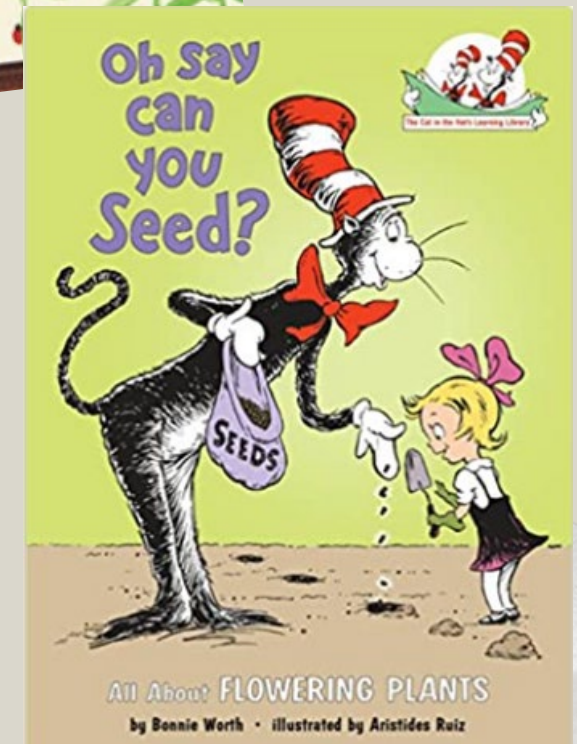
# Pumpkins

## 3D Pumpkin

### What's Inside My Pumpkin



# DIY Seed Tape



Science Math **DIY SEED TAPE** STUDENT WORKSHEET

**Background Information**  
All plants require space around them to grow! The space around them will vary depending on the type of plant; some need more room than others. This is extremely important for gardeners and farmers to consider when it's time to plant their seeds!

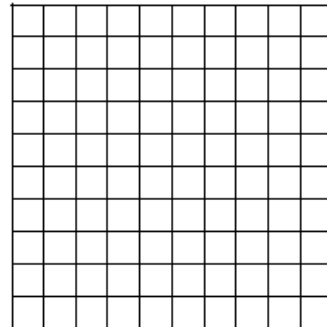
If the seeds are too crowded, the plants will not have room to grow. If the seeds are too far apart, the plants will not grow big enough to block weed seeds from germinating and out-competing them!

Farmers and gardeners use a wide variety of tools and technologies to make sure they are planting at the proper seed density. Making a "seed tape" is one way to make sure seeds are properly spaced.



Today, you are going to "plant your own garden" and determine the spacing required between your seeds for the size of your garden!

- My garden is 10 foot by 10 foot.
- I'm planting \_\_\_\_\_ seeds!
- According to the planting instructions, my seeds should be planted \_\_\_\_\_ inches apart in the same row.
- There also needs to be \_\_\_\_\_ inches between each row!



1. How many rows will fit in this garden?
2. How many seeds can I plant in each row?
3. How many total seeds can I plant?
4. What is the total length in feet of the rows in my garden?
5. What is the total length in inches of the rows in my garden?
6. What is the total area of my garden in square feet?

Science Math **DIY SEED TAPE** SEEDING INSTRUCTIONS

It's time to create your very own Seed Tape! Follow these instructions to create and plant your Seed Tape.



Today we are seeding \_\_\_\_\_ seeds onto our Seed Tape.

1. Cut a piece of toilet paper, or seed tape, to the proper length your teacher instructed.
2. Lay the piece of toilet paper across your workspace and use your ruler or tape measure to measure the length.

My seed tape is \_\_\_\_\_ feet long. This is the same as \_\_\_\_\_ inches long!  
Based on the planting instructions, how many seeds should fit on your seed tape? Show your calculations in this box!



3. Using your spray bottle, lightly spray water onto the seed tape to moisten it. It should **not** be soaking wet!
4. Lay your ruler or tape measure on the edge of the seed tape. Carefully lay the seeds at the proper spacing along the middle of the strip of seed tape.
5. Then, fold the seed tape in half lengthwise and lightly press down. The seeds should stick to the toilet paper somewhat. If your paper is too dry, mist it again with the water and press again. Fold the seed tape in half lengthwise one more time and lightly press down.
6. Let your seed tape fully dry before you move it. Once it's dry, you can carefully fold it or roll it up until you are ready to plant!
7. On planting day, dig a furrow in your garden space. Your furrow needs to be the same length as your seed tape!
8. Place the seed tape in the furrow and cover it with soil.
9. Water daily to keep the soil moist until your seeds germinate. Make sure to water regularly and pull out any pesky weeds that pop up to give your young plants their best chance to grow into tasty vegetables!— remember, your seeds need room to grow!



# Specialty Crop Self Portrait



## SPECIALTY CROP SELF PORTRAIT

Grade Level  
1-5

Length of Lesson  
45 minutes

Objective  
By the end of this lesson, students will be able to recognize various fruits and vegetables while identifying shapes and patterns.

Materials Needed

- Colored pencils, markers, and/or crayons
- Glue or tape
- Scissors
- Copies of head templates
- Copies of specialty crop templates

Standards  
Illinois Visual Arts  
VA:Re7.2.1-5; Cr1.1.1-5;  
Cr2.3.1-2; Cn11.1.1-5

### Lesson Summary

This lesson is designed to challenge students to analyze shapes and organize a visual space by creating a self portrait using a variety of specialty crops!

### Suggested Sequence of Events:

1. Read *We Are Growing* by Laurie Keller to snag student interest.
2. Read through the [JAITC Specialty Crop Ag Mag](#) to learn about pigs and pork. Interactive online versions can be found on our website.
3. Complete the activity following the procedures:
  - Talk to students about what a self portrait is.
  - Share the background information about Giuseppe Arcimboldo from the Teacher Resources page and show them pictures of his art. Then explain that they will be creating their own crop self portraits.
  - Pass out one of the head templates and a copy of the specialty crop template to each student.
  - Then, have them color their fruits and veggies from both templates and cut them out.
  - Students can play around with their shapes and choose which fruits and vegetables they want to use for different facial features.
  - Once they've decided what specialty crops they want to use, have them use glue or tape to secure the shapes in place.
  - Have fun and be creative!
4. Whole class discussion and reflection of activity. Display student artwork around the room or in the hallway!

### Background Information:

Giuseppe Arcimboldo was an Italian painter who painted many portraits, among other things. These were no ordinary portraits though! Arcimboldo painted collections of objects that when arranged in the right way, formed the likeness of a portrait! Here are some of his paintings:



Learn more about Giuseppe Arcimboldo and view more of his imaginative portraits here: <https://www.giuseppe-arcimboldo.org/>





# Ode to a Vegetable

## Example:

Can words capture the beauty of a carrot?

After months of growing, only just now ready to be pulled, no  
Ripped, from the clutches of the warm brown earth, quickly brushed off and  
Ready to snap between the molars of a hungry gardener.  
Other vegetables stand no chance, when compared to the  
Tremendous technicolor beauty of a fresh orange carrot,  
Shaded from the sun for so long, but now ready to serve its final purpose.

Zucchini looks like a caveman's club, always ready against a foe.  
Zucchini sounds like the thunderous claps of a summer rainstorm.  
Zucchini smells like the final bell on the last day of school.  
Zucchini tastes like the bright summer solstice sunlight.  
Zucchini feels like a newborn lamb, nestled in the straw.



## ODE TO A VEGETABLE

Grade Level  
4-8

Length of Lesson  
45-60 minutes

Objective  
By the end of this lesson, students will be able to create multiple forms of poetry.

Materials Needed  
• Copy of *Ode to an Onion*, by Alexandria Giardino

### Standards

Common Core  
CCSS.ELA-Literacy.RL.4.5;  
RL.5.2; RL.5.4; RL.5.4;  
RL.6.4; RL.7.4; W.4.9;  
W.5.9; W.4.3; W.5.3;  
W.6.3; W.7.3

### Lesson Summary

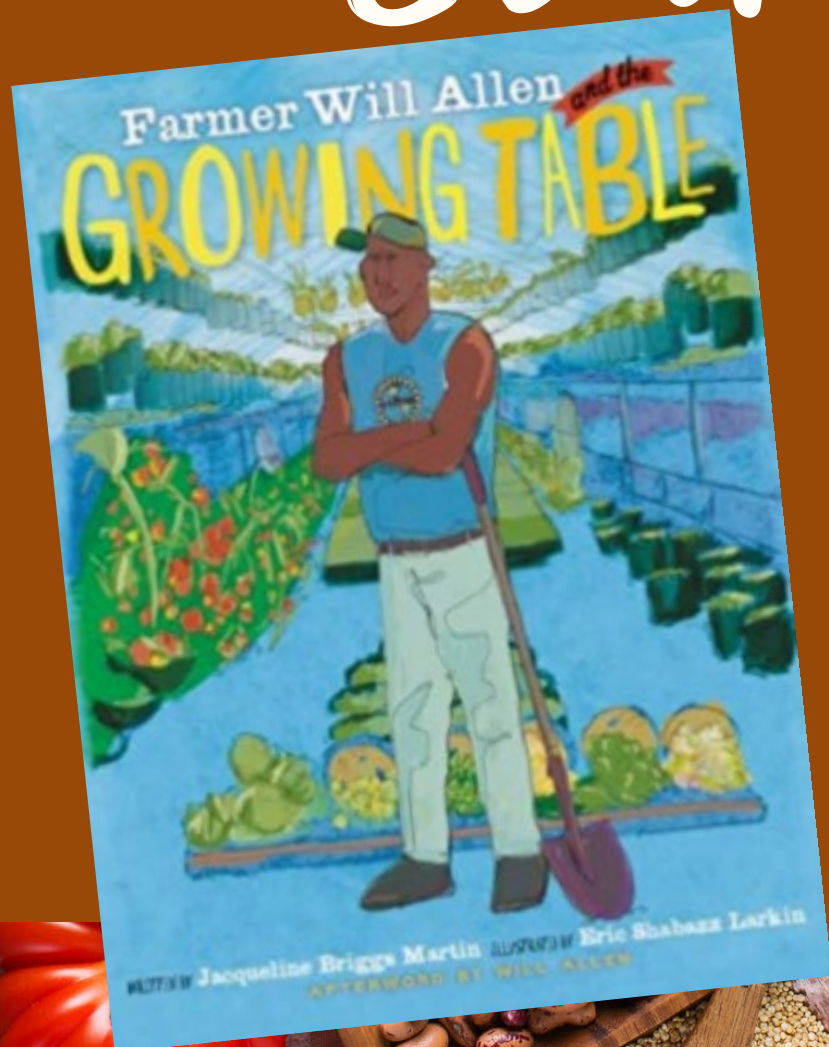
This lesson is designed to introduce or strengthen students' skills of writing poetry. Students will write multiple "odes" to vegetables using simple, common poetic forms. This lesson would work well in a larger poetry unit.

### Suggested Sequence of Events:

1. Read through the [AITC Seasons Ag Mag](#) to learn more about specialty crop and vegetable production in Illinois.
2. Read *Ode to an Onion*, by Alexandria Giardino, to learn the (fictional) story behind Pablo Nerudo's poem "Ode to an Onion."
3. Depending on the age of your students, you may also choose to read some or all of Nerudo's poem, available both online and in the back of *Ode to an Onion*.
4. Complete the activity following the procedures:
  - Ask students to make a list of their favorite vegetables.
  - Next, have them choose a few of their vegetables and make a list of the qualities of each. You may also choose to have them practice using word webs or other graphic organizers utilized in your classroom.
  - Share the types and examples of different poetic forms provided (or choose your own) and ask students to choose a poetic form to use to write their "Ode to a Vegetable" poem.
  - For older students, and if time allows, you might have students write poems in more than one form.
4. Whole class discussion and reflection of activity. Ask students to share their "odes" to the small groups or the whole class. Discuss the different poetic elements and styles used by each student.



# Farmers Market Scavenger Hunt



**Illinois**  
**AGRICULTURE**  
in the Classroom™

## FARMERS MARKET SCAVENGER HUNT

CHECK OFF ALL THE ITEMS YOU  
CAN FIND AT TODAY'S MARKET!

<input type="checkbox"/> vegetable you've never tried	<input type="checkbox"/> something red
<input type="checkbox"/> dessert ingredient	<input type="checkbox"/> eggs in a carton
<input type="checkbox"/> say hello to a farmer	<input type="checkbox"/> bouquet of flowers
<input type="checkbox"/> something yellow	<input type="checkbox"/> dairy product
<input type="checkbox"/> something that grows on a vine	<input type="checkbox"/> person who sells meat
<input type="checkbox"/> salad greens	<input type="checkbox"/> something sweet
<input type="checkbox"/> loaf of bread	<input type="checkbox"/> jelly in a jar
<input type="checkbox"/> honey	<input type="checkbox"/> one of your favorite foods

# Dollar Distribution



Math

## DOLLAR DISTRIBUTION

Grade Level  
4-8

Length of Lesson  
45 minutes

### Objective

By the end of this lesson, students will understand the industries in the food supply chain and be able to differentiate between farmers' income when they sell at the supermarket versus a farmers market.

### Materials Needed

- *Dollar Distribution* student activity sheets (1 per student)
- *Dollar Distribution* student worksheets (1 per student)
- 1 copy of *Dollar Distribution Story*
- Baggies of 100 of something (i.e.—pony beads, [bingo chips](#), pennies, etc.) (1 per student)
- Calculators (1 per student)

### Standards

#### Common Core

CCSS.Math.Content:  
3.NBT.A.1, 4.NF.C.6,  
4.MD.A.2, 6.RP.A.3.C

### Lesson Summary

This lesson is a fun, hands-on activity designed to help students understand the food supply chain and the industries involved in getting food from the farm to their dinner table. It is also a creative way to advocate for purchasing food locally at farmers markets or within CSAs (Community-Supported Agriculture).

### Suggested Sequence of Events:

1. **Set Up:** Prepare baggies of 100 of a small object (i.e.—pony beads, [bingo chips](#), pennies, etc... anything you have lying around!). You will need one baggie per student in your group. These will simulate the 100 pennies in a dollar.
2. Read through the IAITC Farmers Market Ag Mag to learn more about farmers markets and shopping locally! Interactive online versions can be found on our website. Other suggested readings: *On the Farm, At the Market* by G. Brian Karas.
3. Complete the activity following the procedures:
  - Give each student a *Dollar Distribution* student activity sheet as well as a baggie of 100 "pennies."
  - Read aloud the *Dollar Distribution Story* to the students, starting with the Supermarket side.
  - As you read, students should follow along with you on the Supermarket side of their student activity sheet, depositing the correct amount of "pennies" into each supply chain industry's "piggy bank."
  - At the end of the Supermarket story, have students count their remaining "pennies" and deposit them into the Farmers Share mason jar. They should have **16 pennies** in the Farmers Share.
  - Conduct a class discussion using the questions below.
  - Direct students to answer the questions on the top half of their *Dollar Distribution* student worksheet.
  - When discussion has concluded, have students carefully collect all their "pennies" once again and put them back in their baggies. Flip over your *Story* sheet and have the students flip over their student activity sheets so everyone is now on the Farmers Market side.
  - Using the same procedures above, read through the story and have students deposit their "pennies" in the piggy banks for the industries on the Farmers Market side of their activity sheet.
  - At the end of the story, have students count their remaining "pennies" and deposit them into the Farmers Share mason jar. In this scenario, the farmer should receive **90 pennies**.
  - Conduct a class discussion using the questions below.
  - Direct students to answer the rest of the questions of their *Dollar Distribution* student worksheet.
4. Whole class discussion and reflection of activity.



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# Plant Parts Logic Puzzle

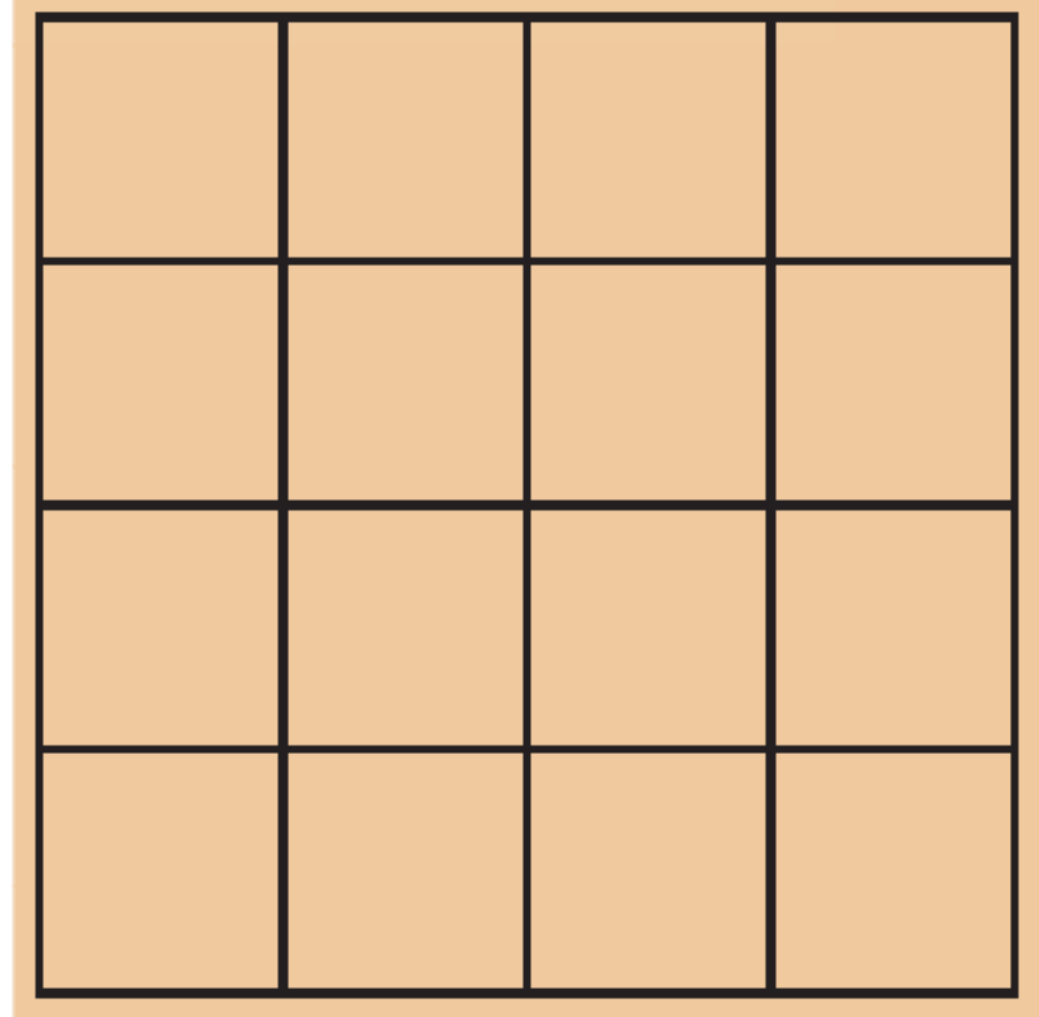
Instructors: Cut out these Vegetable Cards along the THICK lines. You will end up with 24 square cards! These are the playing cards for the review activity.

**ADVANCED** 

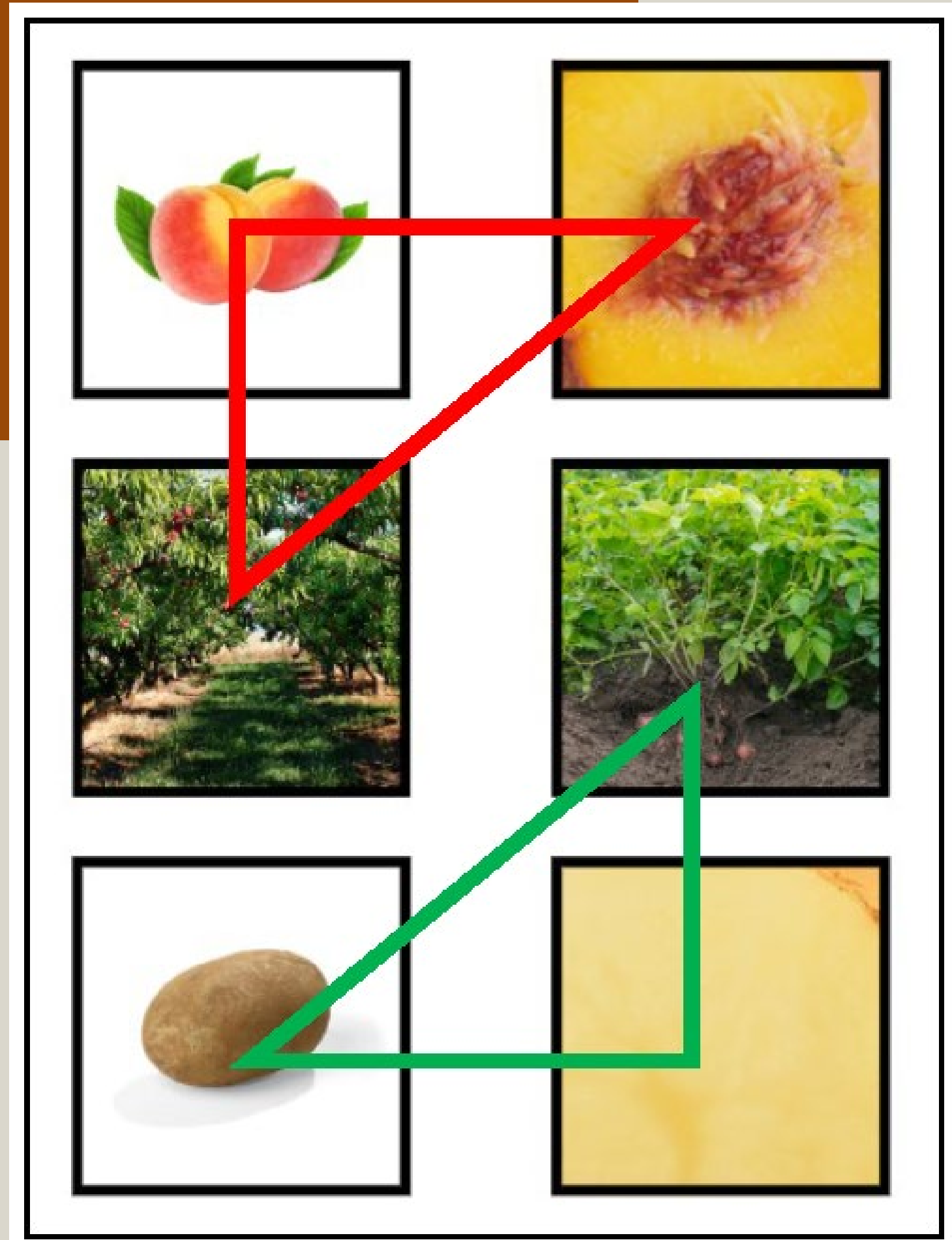


Time to go shopping at the Farmers Market and put your knowledge to the test!

Arrange the Vegetable Cards into the shopping bag below so that "like" plant parts are touching each other (i.e. - stems touching stems, roots touching roots)



# *Ins and Outs*



# Spot IL!

## CAN YOU SPOT IL! AG AROUND YOU?

Illinois agriculture is very diverse. But what are farmers growing and raising and what are these products used for? Keep reading to learn more about Illinois livestock, commodities, environment, and products and think about why each of these items are important to you and those around you.



### GENERAL AGRICULTURE

Every career in the world of agriculture uses tools, machines, buildings, technology, and more in order to get the job done! Here are a few that you might recognize!

**Barns** are used for storing tools, machines, or products or used as shelter for livestock.



**Tractors** are used to pull different implements for plowing, planting, mowing, and more.



**Combines** do the work of reaping, threshing, and winnowing all with just one machine.

A **hand trowel** is used to dig small holes or transfer dirt in pots. You may have used this in your garden!



A **semi** is a vehicle that transports many different types of products from place to place.

A **pitchfork** is used to lift and throw loose materials like hay, straw, leaves, or manure.



A **sil** stores bulk product like grains, seeds, or feed silage.



*A Minute with a Guy Who Thinks Everyone Should Have a Garden*



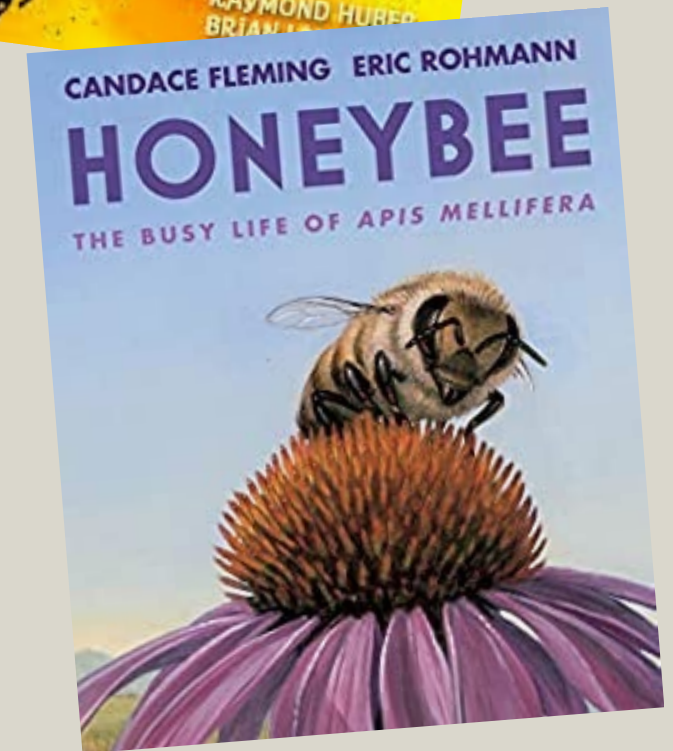
Coming Soon:  
*Awesome Agriculture: Scientific Reasoning from the Farm to the Classroom*





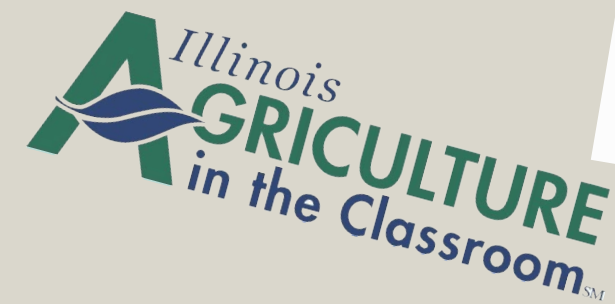
# Bee School

parts of a beehive



# Ag Literacy on Your Farm

- Questions to ask yourself:
  - What does my audience already know? What do they NOT know?
  - Where is the balance between fun and educational?
  - What's my big takeaway? What do I want consumers/students to walk away from my farm with?
  - What local resources are already available to me?
    - How can I partner with others?
      - Local AITC Programs
      - County Farm Bureaus
      - SWCD
      - U of I Extension
      - Other non-profits?
      - Schools/Community Centers
  - How good is my liability insurance?
  - How can my farm be more "visitor-friendly?"



# *More FREE Resources*

**www.aginthe classroom.org**

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# Contact Me:

Chris Wyant

[cwyant@ilfb.org](mailto:cwyant@ilfb.org)

(309) 557-2019

[agintheclassroom.org](http://agintheclassroom.org)

Thank you!

