Standard(s) Supported: SC.2.L.16.1, SC.3.L.14.1, SC.3.L.17.2, HE.2.PHC.1.5, HE.3.PHC.3.2, HE.2.CH.3.1, HE.3.PHC.1.1

LET'S LEARN ABOUT FLORIDA LETTUCE!

This Virtual Farm Field Trip unit is all about lettuce. It begins with an informative 5-minute video, transporting students to Traders Hill Farm in Hilliard, Florida. Your students will meet farmers Tracy and Kathy to learn how Florida lettuce is planted, grown, harvested and distributed.

We encourage you to expand the learning experience using this section's worksheets and guided activities, including a taste test. You may choose to use all these resources or pick the ones best suited to your classroom.





ACCESS VIRTUAL FARM FIELD TRIP

Scan code or visit:
FarmToSchoolFL.com/FieldTrips

FLORIDA LETTUCE FUN FACTS

- **Fresh lettuce is mostly water. Eating it helps you stay hydrated.**
- **Lettuce has vitamin K for strong bones.**
- **Lettuce comes in many colors: green, red and even purple.**
- **Romaine is the second most common type of lettuce grown in the U.S. behind iceberg, both of which are grown right here in Florida.**
- **Lettuce can grow in different ways! Field lettuce grows outside in the dirt, drinking rain and soaking up sunshine. Hydroponic lettuce grows with its roots right in water filled with plant food. Aquaponic lettuce grows in water too, but with fish. The nutrients from the fish feed the plants.**
- **In Florida, lettuce is largely grown outside in the rich soils south of Lake Okeechobee.**

BEFORE YOU WATCH: DISCUSSION STARTERS

Get students thinking about agriculture, science and nutrition by asking questions such as:

- *What do plants need to grow? What happens if they don't get what they need?*
- *Can a plant grow without dirt? What might it need instead?*
- *Let's name some vegetables. Can you think of any that are green?*
- *Close your eyes and imagine you are at a farm. What do you see? Hear? Smell?*
- *Today, we'll be taking a virtual field trip to visit a Florida lettuce farm. What do you know about lettuce?*
- *Have you eaten lettuce before? What did it taste like?*

TRIVIA TOSS

Want to liven up your video trivia sheet exercise? Have students answer questions or complete their worksheets separately, then come together in teams to compare and finalize answers. Go around the room asking each team a question. If they answer it correctly, they get a chance to toss a ball into one of three buckets to get a prize for their team. Prizes might be a homework pass, free time, extra computer time or lunch in the classroom.

AFTER YOU WATCH: SUGGESTED QUESTIONS

Find video comprehension questions, answers and video timestamps for finding those answers below. See the worksheet section of these resources for a trivia sheet covering the questions below for more independent student work.

- *What animals live in the water and help feed the lettuce?* ***(Fish, tilapia; 0:43)***
- *What is it called when plants are grown in water instead of soil?* ***(Hydroponics, and adding fish makes it aquaponics; 0:36)***
- *How long is the growing cycle of lettuce on this farm?* ***(About 35–40 days; 0:59)***
- *True or false: Romaine lettuce is about 95% water.* ***(True; 1:45)***
- *What is the ideal temperature for growing lettuce?* ***(About 70°F; 2:02)***

  Teacher Tip: 70°F is about the same temperature we keep inside our homes and classrooms. Ask why growing lettuce inside a greenhouse helps farmers hold that perfect temperature all year, even when it's really hot or really cold outside.
- *What does it mean when a lettuce plant "bolts"?* ***(It starts growing flowers and seeds and won't taste as good; 2:50)***
- *True or false: Lettuce is a good source of vitamin K, which helps keep your bones strong.* ***(True; 2:53)***

  Teacher Tip: Ask students what other foods keep bones strong. (Dairy!)
- *What happens to the fish waste in the filtration system?* ***(The system turns fish waste into food for the plants; 3:32)***
- *True or false: Lettuce is part of the legume (or pea) family.* ***(False, it's in the sunflower family; 3:51)***
- *What is a nursery on the farm?* ***(A place where plants are grown, where lettuce starts growing from the seed; 4:00)***
- *True or false: An outdoor farm can grow more lettuce in less space than a greenhouse using hydroponics or aquaponics.* ***(False, this greenhouse grows 5 times more lettuce in the same space; 1:50)***

GEOGRAPHY MOMENT

Ask students to find Hilliard on a map of Florida. (Hint: It's in the far northeast corner, near the Georgia border just above Jacksonville.)

USING THESE TEACHING TOOLS

Below is an overview and guide for using the teaching tools included in this section, including guided activities, recipes and worksheets. We've included the education standards each tool complements, materials needed for each activity, a brief overview of each tool and tips for building your lessons.

You can find each of these tools on the following pages, along with additional information and pointers.

GUIDED ACTIVITIES

TOOL	COMPLEMENTARY STANDARDS	MATERIALS NEEDED	ABOUT THIS TOOL	TEACHER TIPS
Video, Discussion Questions and Trivia Toss (in Classroom Guide) *On page 131*	Standard(s) Supported: SC.2.L.16.1, SC.3.L.14.1, SC.3.L.17.2, HE.2.PHC.1.5, HE.3.PHC.3.2, HE.2.CH.3.1, HE.3.PHC.1.1	- 3 buckets, boxes or similar containers - 2 palm-sized balls (enough for each team to have one)	This activity gets students out of their seats as they respond to questions about the Virtual Farm Field Trip video.	Use this activity to complement or reinforce the Video Trivia sheet.
Lettuce Three Ways *On page 137*	Standard(s) Supported: SC.2.P.9.1, SC.3.P.8.3, SC.2.N.1.5, HE.2.PHC.1.1, HE.3.PHC.3.2	- Head of romaine lettuce - Lemon and/or salt, or a homemade vinaigrette (see recipe on following pages) - Store-bought creamy salad dressing	In this activity, you'll guide students through tasting lettuce in three different forms – plain, with a simple seasoning and with a creamy dressing.	Start by asking your school nutrition team if they can support you by acquiring and/or preparing the food items. Use this activity to introduce students to new, nutritious foods. Educate them on the nutritional differences between whole foods – like fresh lettuce – and packaged foods with long ingredient lists – like store-bought dressing.

TOOL	COMPLEMENTARY STANDARDS	MATERIALS NEEDED	ABOUT THIS TOOL	TEACHER TIPS
Lemon and Olive Oil Vinaigrette *On page 139*	Standard(s) Supported: SC.2.P.9.1, SC.2.P.8.1, SC.3.N.1.6	Equipment required: - Small jar with a tight-fitting lid - Measuring cup - Measuring spoons - Paper or cloth towels for spills - Bowls or cups to serve Ingredients (adjust quantities based on class size): - ⅓ cup extra virgin olive oil - 1 tablespoon white wine vinegar or apple cider vinegar - 1 tablespoon lemon juice - 2 teaspoons honey or sugar - ¼ teaspoon garlic powder - ¼ teaspoon salt - Pinch black pepper	Use this recipe to prepare your own vinaigrette for the Lettuce Three Ways exercise.	You might demonstrate making one batch to share with your class, or divide students into groups of four so each group can shake their own jar and watch the oil and vinegar temporarily combine.

TOOL	COMPLEMENTARY STANDARDS	MATERIALS NEEDED	ABOUT THIS TOOL	TEACHER TIPS
Thirsty Lettuce (Teacher Guide and Student Sheets) *On page 140*	Standard(s) Supported: SC.3.L.14.1, SC.3.L.17.2, SC.2.P.8.1	- Pale inner romaine leaves: 1 per group, plus a few extras (some won't take the dye well) - Clear cups: 1 per leaf - Water - Paper towels: for drips and dye spills (dye stains!) - Dark food coloring: red or blue works best; you'll need plenty for a deep color - Scissors or a knife (teacher use only): for the fresh cut and slicing the rib open - Ruler (optional): for measuring how high the color climbs - Aprons or old shirts (optional): food coloring stains hands and clothes	This activity invites students to explore capillary action and transpiration by conducting a simple science experiment over time.	You handle all of the cutting, and the dyed lettuce is for science rather than for eating. Start the experiment in the morning so students can see progress before the day ends, though the boldest results appear the next day. Hand out rulers and have students track how high the color climbs to turn the observation into a measurement lesson.
Regrow a Romaine Heart (Teacher Guide and Growth Log) *On page 144*	Standard(s) Supported: SC.2.L.16.1, SC.3.L.14.1, SC.3.L.14.2, MA.2.M.1.1 / MA.2.M.1.2 / MA.2.M.1.3 / MA.3.M.1.2	- The base of a romaine heart (about 1–2 inches tall), cut by the teacher - A shallow dish or cup - Water - A sunny windowsill - Rulers, for students to measure new growth in centimeters - A growth log or chart, for daily measurements and sketches (see next page)	Instead of throwing away the bottom of a romaine heart, your class regrows it in a shallow dish of water. Students measure the tallest new leaf each day and log what they see over one to two weeks.	This activity complements life science lessons on life cycles and math lessons on measurement. It can run as a single class demonstration or in small groups so every student can measure their own plant.

WORKSHEETS

TOOL	COMPLEMENTARY STANDARDS	MATERIALS NEEDED	ABOUT THIS TOOL	TEACHER TIPS
Romaine Lettuce Video Trivia and Farm Math *On page 148*	Standard(s) Supported: MA.2.AR.1.1 / MA.3.AR.1.2	- Writing instrument	This worksheet tests students' comprehension of the Virtual Farm Field Trip by asking questions answered in the video, then applies farm facts to word problems.	You might hand the worksheet out before the video so students can answer as they go, or wait until after. Consider enhancing this activity with the "Trivia Toss" activity, explained in this Classroom Guide under "After You Watch."
On the Lettuce Farm *On page 150*	Standard(s) Supported: ELA.2.C.3.1, ELA.2.C.1.2, ELA.2.R.3.2, ELA.3.C.1.4, ELA.3.C.3.1, ELA.3.R.3.2	- Writing instrument - Crayons, colored pencils or markers	This worksheet asks students to draw how lettuce grows at the farm they visited in the Virtual Farm Field Trip — from the fish, to the water, to the lettuce — and then explain the picture in writing.	This tool reinforces comprehension, encourages observation skills and allows students to express their understanding creatively. You might ask students to each share with the class what they drew and wrote.
Parts of a Lettuce Plant *On page 151*	Standard(s) Supported: SC.3.L.14.1, SC.3.L.17.2	- Writing instrument - Crayons, colored pencils or markers (optional)	This worksheet has students (1) label parts of the lettuce plant using a word bank, then (2) match each part of the plant with a description of its function.	This worksheet complements life science lessons about parts of the plant.
Life Cycle of Lettuce *On page 152*	Standard(s) Supported: SC.2.L.16.1	- Scissors - Glue - Crayons, colored pencils or markers	This worksheet invites students to cut and glue words indicating stages of a lettuce plant's life cycle in the correct order, including flowering and bolting.	This worksheet complements life science lessons about plant life cycles. It also pairs well with the bolting question in the Classroom Guide.
Reading Comprehension: Two Ways to Grow Lettuce, with Close Reading *On page 153*	Standard(s) Supported: ELA.2.R.3.2 / ELA.3.R.3.2, ELA.2.V.1.3, ELA.3.V.1.3	- Writing instrument	This worksheet pairs a short passage about field-grown and greenhouse-grown lettuce with close reading questions. Students circle the best answer, then explain their thinking in writing.	This worksheet complements reading comprehension and vocabulary lessons. It gives students a second route into the content of the Virtual Farm Field Trip, which helps those who take more from reading than from watching. You might read the passage aloud together first, then have students answer independently.
Answer Key *On page 155*			See here for answers to each worksheet.	

LETTUCE THREE WAYS

This group activity brings the field trip to life as students get the opportunity to taste lettuce three ways: plain, with simple seasoning or with a creamy dressing.

MATERIALS



Head of romaine lettuce



Lemon and/or salt, or a homemade vinaigrette *(see recipe on following pages)*



Store-bought creamy salad dressing

COLLABORATE WITH YOUR CAFETERIA

Consider partnering with your school nutrition team to obtain these food items and/or prepare a lettuce-wrap-style dish for your taste test. Be sure to contact them ahead of time, discuss the support you will need and show gratitude for their collaboration!

SUGGESTED QUESTIONS

Lead a discussion as your students try lettuce three different ways. Questions like the following can help kids better connect with their food, think about their preferences and encourage them to make nutritious choices in the future.

Before the tasting:

1. *Have you tried romaine lettuce before? How did you eat it? What did you think?*
2. *If not, what do you think it will taste like?*
3. *Did you know that there are hundreds of lettuce types? How do you think the different kinds look, feel and taste different from each other?*

As they try the plain lettuce:

1. *What do you think of the texture of the plain lettuce? Is it crunchy or soft?*
2. *Describe the flavor. Is it like lettuce you've tasted before? If yes, how so? If not, how is it different?*
3. *How would you feel about eating fresh lettuce as a snack? Why? What might you eat it with?*

As they try the lettuce with a squeeze of lemon, sprinkle of salt or homemade vinaigrette:

1. *How is this lettuce similar to the plain lettuce you just tried?*
2. *How is it different?*
3. *Have you eaten lettuce like this before? How else have you had it? Which way do you prefer?*

As they try the lettuce with the creamy dressing:

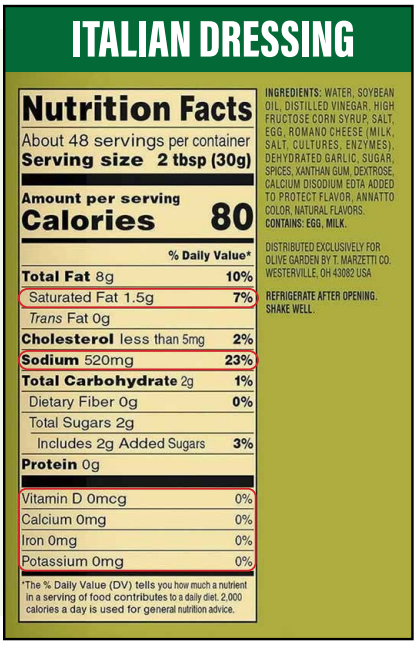
1. *How does the texture of this lettuce compare to the other lettuce you tried?*
2. *Describe how the creamy dressing looks and tastes. How is it the same or different from the lemon, salt or vinaigrette you tried?*
3. *Before today, did you know that adding different dressings can change the texture of the lettuce? What other dips, dressings or sauces might you try eating with lettuce?*
4. *What's one new way you'd like to try eating lettuce after today?*

TEACHER TIP:

Use this as a quick nutrition lesson. Explain that whole foods with just one ingredient — like fresh lettuce — are usually more nutritious than packaged foods with a long list of ingredients.

A food with lots of ingredients — like store-bought dressing — is like a puzzle with many pieces, and some pieces might not be so nutritious (like added sugar). Simple foods you recognize are better for your body and help you feel your best.

Pass around the dressing bottle and read the ingredient list together. Ask: "Any long words we can't say?" Then you may point out the amount of sodium and saturated fat, and lack of vitamins in one serving. Encourage students to compare this to fresh lettuce. There isn't an ingredient list — because it's just lettuce!



ALTERNATE IDEAS

If you have extra time to prepare, or if your school's nutrition team agrees to prepare a dish for your taste test, here are some great options to use in place of either of the dressing options:

- **Lettuce varieties side by side**
- **Chilled vs. room-temperature lettuce**
- **Lettuce as a dipper (with hummus or ranch)**
- **"Massaged" romaine (massage vinaigrette into lettuce for a change in taste and texture)**
- **Lettuce wrap burger sliders**
- **Lettuce boats with Southwestern style fillings**
- **Lettuce cups with Asian-inspired chicken filling**

LEMON AND OLIVE OIL VINAIGRETTE RECIPE

Estimated Yield: About ½ cup dressing (4 two-tablespoon servings)

EQUIPMENT REQUIRED

- Small jar with a tight-fitting lid
- Measuring cup
- Measuring spoons
- Paper or cloth towels for spills
- Bowls or cups to serve

MATERIALS AND INGREDIENTS

Adjust quantities based on class size.

- ⅓ cup extra virgin olive oil
- 1 tablespoon white wine vinegar or apple cider vinegar
- 1 tablespoon lemon juice
- 2 teaspoons honey or sugar
- ¼ teaspoon garlic powder
- ¼ teaspoon salt
- Pinch black pepper

DIRECTIONS

1. Combine all ingredients in the small jar.
2. Seal jar tightly and shake vigorously until dressing appears combined and slightly cloudy.
3. Serve over chopped romaine.

TIP: You might choose to demonstrate how to make the dressing for the class, or have students work in small groups to shake and mix their own jars as a hands-on activity. Observe how the oil and vinegar combine/emulsify, then discuss why they eventually separate into distinct layers.



CUSTOMIZE YOUR DRESSING

Switch up your dressing by experimenting with other flavors. Stir in a tablespoon of grated Parmesan cheese for a richer, cheesy flavor. Add a teaspoon of Dijon mustard to add a little kick and help the dressing emulsify. Or have fun playing with different seasonings and herbs like basil, Italian seasoning or chives.

THIRSTY LETTUCE

TEACHER GUIDE

In this hands-on experiment, students stand a romaine leaf in dyed water and watch the color travel up through the leaf's veins. It's a simple, visible way to see how plants pull water from their roots up to their leaves. It ties directly to Traders Hill Farm, where lettuce grows with its roots in water.

The Science:

Plants move water through tiny tubes called xylem that run from the roots up into every leaf. Water is pulled upward by capillary action, the same way a paper towel soaks up a spill. As the leaf loses water into the air (transpiration), more water is pulled up to replace it, carrying nutrients along the way. The red or blue dye simply "rides along" with the water, making this invisible journey visible.

(No need to use "xylem" or "capillary action" with younger students. "Tiny tubes" and "little straws" work great!)

Time: ~15-20 min setup

Check after a few hours, but the boldest results appear the next day. If you can, start in the morning so students see progress before the day ends. Check back again the next day.

MATERIALS

- **Pale inner romaine leaves: 1 per group, plus a few extras (some won't take the dye well)**
- **Clear cups: 1 per leaf**
- **Water**
- **Paper towels: for drips and dye spills (Dye will stain hands and fabric.)**
- **Dark food coloring: red or blue works best; you'll need plenty for a deep color**
- **Scissors or a knife (teacher use only): for the fresh cut and slicing the rib open**
- **Ruler (optional): for measuring how high the color climbs**
- **Aprons or old shirts (optional): food coloring stains hands and clothes**

SETUP TIP: Re-cut each stem, right at the base of the leaf, right before the students stand it in the water. A fresh cut reopens the tubes and is the #1 thing that makes color show.

Your Role During the Activity

- You handle the cutting, both the fresh cut across the stem, right at the base of the leaf at the start, and slicing the rib open lengthwise at the end.
- Have students make and record a prediction before starting. This builds the "predict, then observe" habit and makes the reveal more exciting.
- Encourage students to check back at intervals and notice the color climbing higher over time. This is a great time to practice using a ruler to measure!

What to Expect/Troubleshooting

- **Faint color?** The dye may be too weak, the cut wasn't fresh or not enough time has passed — add more dye, re-cut and wait longer (overnight is best).
- **No color at all?** The leaf may be too thick/dark, or the stem end dried out and sealed. Try a paler inner leaf with a fresh cut.
- Colored streaks will appear along the veins/ribs. That's exactly what you want students to spot!

Facilitating the Discussion

Use the "Reflect" questions on the student worksheet to guide students. Start by asking what they saw, then why it matters and if their observations are seen at the farm. Let them point to the colored lines as evidence. Find answers to the right.

Student Worksheet "Reflect" Answer Key:

1. The color traveled **up** into the veins/ lines of the leaf, visible as colored streaks where water was pulled through.
2. **Up!** Water moves up from the cut end into the leaf.
3. The plant pulls water up from its **roots** through **tiny tubes** (like the colored lines) all the way to the leaves.
4. Both take up water **from the bottom**, just like the roots-in-water system at the aquaponic farm.

EXTEND LEARNING

- **Measurement:** Have students use a ruler to track how high the color climbed and re-measure the next day.
- **Compare:** Try a thick outer leaf vs. a pale inner leaf, or two dye colors, and compare results.
- **Farm connection:** This is a tiny version of how water travels through the lettuce at Traders Hill Farm, up from the roots, through the plant, carrying food along the way.

SAFETY

- You do all the cutting.
- The dyed lettuce is for science, not for eating!

Name _____ **Date** _____

Thirsty Lettuce

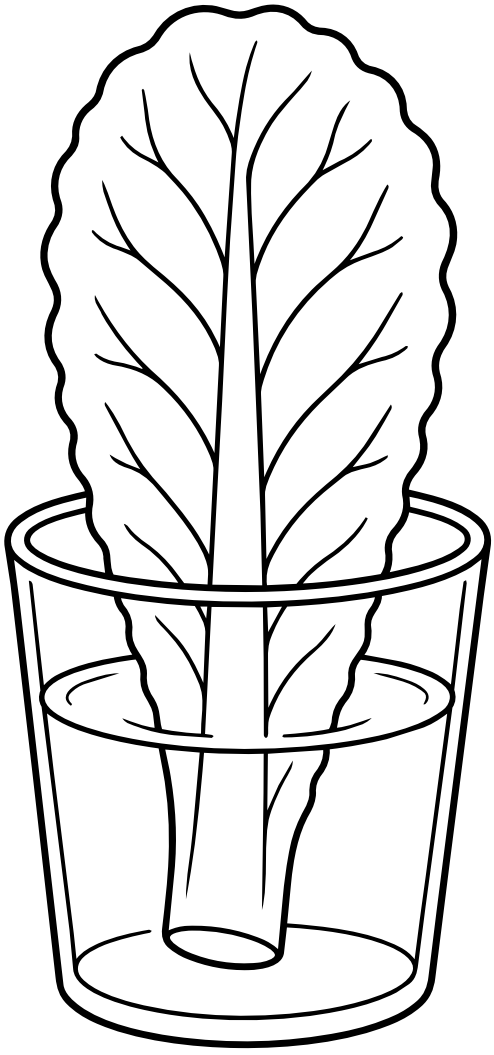
A leaf is almost all water — about 95 percent! At Traders Hill Farm, water is always moving through the lettuce, carrying food the plant needs. But how does water travel inside a leaf? In this activity, you'll use colored water to see it happen!

Our Question

What happens when a lettuce leaf sits in colored water?

What You'll Need

- 1 pale inner romaine lettuce leaf
- A clear cup
- Water
- Dark food coloring (red or blue works best)
- A ruler (optional)



What To Do

1. Fill the cup partway with water. Stir in lots of dark red or blue food coloring until the water is deep red or blue.
2. Ask your teacher to snip a fresh cut across the bottom of your leaf. Stand the leaf in the cup with the cut end down in the water.
3. Put the cup where it won't be bumped. Now wait and watch! Check after a few hours and again the next day.

Look Closer

When you're done, ask your teacher to slice one leaf open the long way. Can you see the thin colored lines inside? Those are tiny tubes that carry water up through the whole plant, like little straws!

REMEMBER

This lettuce is for science, not for eating!

Continued →

My Prediction

What do you think will happen to the leaf? Draw or write your guess here: _____

Reflect

Write your answer to each question below. Then we will discuss as a class.

1. Where did the colored water go? How can you tell? _____

2. Which way did the water move: up or down? _____

3. A lettuce leaf is mostly water. How do you think water gets all the way up into a real lettuce plant's leaves?

4. At Traders Hill Farm, lettuce grows with its roots in water. How is that like what happened in your cup?

REGROW A ROMAINE HEART

TEACHER GUIDE

Instead of throwing away the bottom of a romaine heart, your class can regrow it. In this multi-day activity, students set a leftover romaine base in shallow water, watch new leaves sprout over 1–2 weeks and measure and log the growth as it happens. It's a memorable way to show that plants take up water to grow, and that living things move through life cycle stages.

Time: ~10 minutes to set up; 2–3 minutes daily for water changes and measuring over 1–2 weeks.

MATERIALS

- **The base of a romaine heart (about 1–2 inches tall), cut by the teacher**
- **A shallow dish or cup**
- **Water**
- **A sunny windowsill**
- **Rulers, for students to measure new growth in centimeters**
- **A growth log or chart, for daily measurements and sketches (see next page)**

These materials are for one class demonstration. To run it in small groups, multiply materials by the number of groups. Group setup lets every student measure their own plant and compare results across the room.

HOW TO RUN IT

Set-up: Cut the bottom 1–2 inches off a romaine heart — the pale base where the leaves join. Set it cut side up in the dish and add about half an inch of water, enough to cover the very bottom without submerging the whole base. Place the dish on a sunny windowsill where the class can check on it easily.

Daily check-in: Assign students to pour out the old water and refill with fresh water each day. This step keeps the base healthy and growing rather than rotting, and it gives students a small daily responsibility in the investigation.

What to expect: New leaves typically appear within 3–5 days; small roots may form at the base, too. After 1–2 weeks, you can expect to see a small cluster of tender new leaves, but not a whole new head. It will also turn bitter after a couple of weeks. That's a great discussion point: the plant is living on stored energy, not making a full new plant.

If it turns slimy or smells, the water wasn't changed often enough or the base sat too deep. Start fresh with a new base and less water.

LEADING THE MEASUREMENT AND LOGGING

Have students measure the tallest new leaf to the nearest centimeter and record it in their log. Toward the end of the activity, guide students to compare their first and last measurements and describe how much the lettuce grew. Students who finish early can note other changes: leaf color, the number of new leaves or roots forming.

DISCUSSION QUESTIONS TO LEAD

Before you begin, ask: "Do you think this leftover piece can grow again? What do you think will happen?"

HAVE STUDENTS RECORD THEIR PREDICTIONS

As the lettuce grows, and again at the end, lead a class discussion with prompts such as:

- What is happening to the romaine lettuce's base over time, and where are the new leaves growing from?
- This lettuce is growing in just water, with no soil. How is that like the farm we saw, where lettuce grows in water with help from fish?
- Why do we change the water every day? What might happen if we didn't?
- Plants need certain things to grow. Which of those did our lettuce have on the windowsill?

Look for students to recognize that new leaves grow from the center of the base, that the base takes up water to fuel that growth and that this mirrors the roots-in-water aquaponic system at Traders Hill Farm.

WRAP IT UP

Have students compare their first and last measurements and state how much the lettuce grew in total. Then circle back to the start and ask:

Was your prediction right? What surprised you?

Name _____ **Date** _____

My Lettuce Growth Log

We are regrowing a romaine heart in water. Check it once a day. Measure, write and draw what you see!

My Prediction:

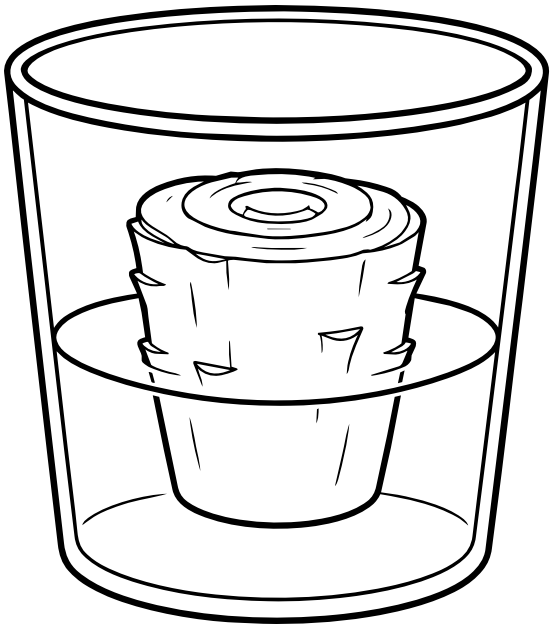
Do you think this leftover piece of lettuce can grow again? What do you think will happen?

_____

_____

How to Check Each Day

1. Change the water.
2. Measure the tallest new leaf in centimeters.
3. Write the number below and draw what you see.



Day	Date	Height (cm)
1		0 cm
2		
3		
4		
5		
6		
7		
8		
9		
10		

Tip: If nothing changed today, write it down anyway! "No change" is important science, too.

Continued →

Observations

My lettuce started at 0 cm.

On my last day it was _____ cm tall.

So, it grew _____ cm total!

Reflection

1. Where did the new leaves grow from? _____

2. Our lettuce grew in just water — no soil! Why do you think that worked? _____

3. Was your prediction right? What surprised you? _____

Name _____ **Date** _____

Romaine Lettuce Video Trivia & Farm Math



Directions: Answer these trivia questions based on the video you watched about the Florida Romaine Lettuce farm.

1. Lettuce has a vitamin that helps keep something in your body strong.
   a. What is the vitamin called? _____
   b. What does it keep strong? _____
2. What happens to the fish waste at the farm? _____
3. What temperature is best for growing lettuce? _____

Circle whether the statements below are true or false.

4. In aquaponics, fish help the plants grow.	**TRUE** | **FALSE**
5. A garden outside can grow more lettuce in a small space than a greenhouse can.	**TRUE** | **FALSE**
6. Romaine lettuce takes about 35-40 days to grow at Traders Hill Farm.	**TRUE** | **FALSE**
7. Lettuce is part of the pea family.	**TRUE** | **FALSE**

Choose the correct word to fill each blank.

Word Bank: **water · nursery · hydroponics**

8. _____ is growing plants in water, not soil.
9. Romaine lettuce is 95% _____.
10. A _____ is a place where baby plants start growing from seeds.

Continued →

Farm Math

Solve each problem and write your answer in the box.
(Tip: A flat is a tray that holds baby plants!)

1. Farmer Tracy packed 25 lettuce plants into one flat and 25 plants into another flat. How many lettuce plants are in the two flats total?

_____ plants

2. One row on the lettuce farm has 50 flats. If the workers have already planted 32 flats, how many flats are left to finish the row?

_____ flats

3. Lettuce takes 40 days to grow. It has been growing for 15 days. How many more days until it's ready to pick?

_____ days

4. If there are 5 fish tanks, and each tank has 200 fish, how many fish are there total?

_____ fish

Name _____ **Date** _____

On the Lettuce Farm

Directions: Draw a picture that shows how lettuce grows at Traders Hill Farm, from the fish, to the water, to the lettuce.

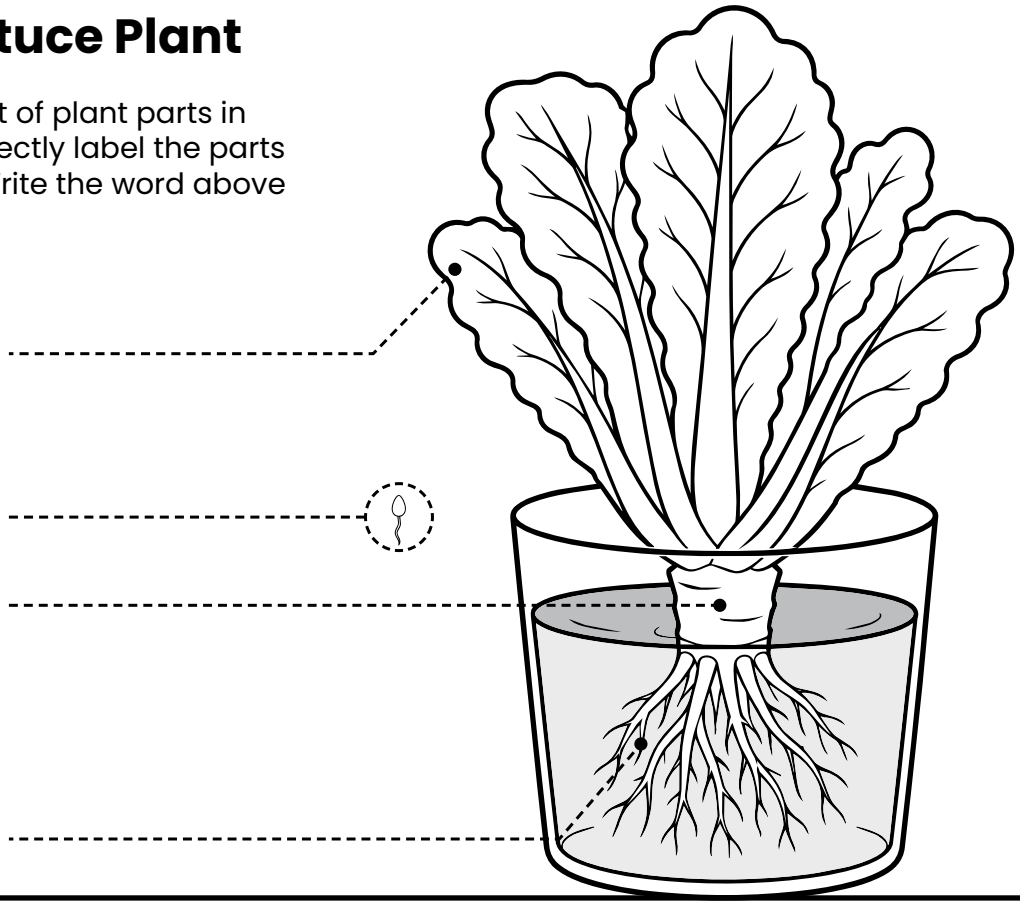
Explain your picture to someone who has never seen the farm. How do the fish help the lettuce grow? Write at least three sentences.

Name _____ **Date** _____

Parts of a Lettuce Plant

Directions: Use the list of plant parts in the word bank to correctly label the parts of the lettuce plant. Write the word above the dotted line.

Word Bank
Root
Stem
Leaf
Seed



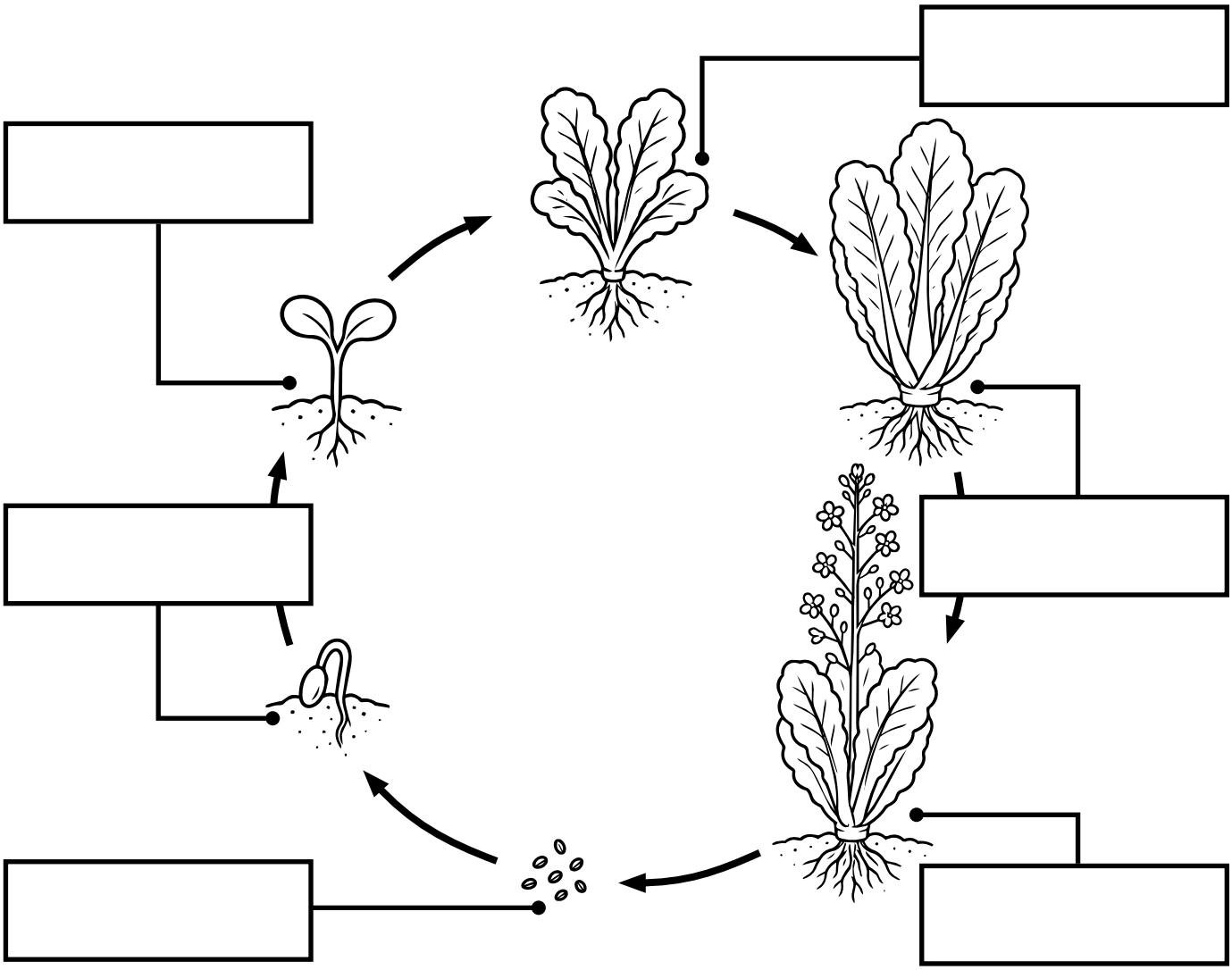
Now draw a line between each part of the plant (on the left) and its function (on the right).

Root	Soaks up sunlight and makes food for the plant
Stem	Grows into a brand new plant
Leaf	Drinks up water and holds the plant in place
Seed	Holds the plant up and carries water to the leaves

Name _____ **Date** _____

Life Cycle of Lettuce

Directions: This lettuce grows in soil! Cut out the words and glue them where they belong to label each stage of the lettuce plant's life cycle.



Seedling	**Flowers** (Bolting)	**Young Plant**
Seeds	**Germination**	**Mature Plant**

Name _____ **Date** _____

Two Ways to Grow Lettuce

Directions: Read the passage about how lettuce is grown. Then, answer the questions.

Did you know there is more than one way to grow lettuce? Some farmers grow lettuce outside in a field. Other farmers grow lettuce inside in water. Lettuce grown in water instead of soil is called **hydroponic** lettuce.

Farmers have grown lettuce in fields for a long time. In a field, plants get sunshine and rain from nature. This works well when the weather is warm and sunny. But bad weather can be a problem. If it gets too cold, too hot or too rainy, some lettuce can be hurt before it is ready to pick. Lettuce also grows best only in certain seasons. Farmers cannot grow it outdoors all year.

At Traders Hill Farm in Florida, farmers grow lettuce a different way. They grow the lettuce inside big buildings called **greenhouses**. A greenhouse keeps the plants warm and safe. Inside, the lettuce does not grow in soil. It grows in pools of water! Nearby, fish swim in their own pools. The fish water flows over to the lettuce and gives the plants **nutrients**. Nutrients are the tiny bits of food a plant needs to grow. This way of growing is called **aquaponics**.

Growing lettuce in greenhouses has good parts and hard parts. A good thing is weather cannot hurt the plants. Because of this, the farm can grow fresh lettuce all year, even in winter. Greenhouses also keep most bugs out, so farmers use less bug spray. And growing this way uses less water than growing in a field. But here is the hard part: Greenhouses cost a lot of money. The buildings and the pumps are expensive to build and to run.

Each way to grow lettuce has its own strengths. Both kinds of farmers work hard to grow good food. Some of that lettuce might even end up on your lunch tray!

Close Reading

Circle the best answer.

1. What is this passage mostly about?

a. How to make bug spray
b. Two ways that farmers grow lettuce
c. How to cook lettuce for dinner
d. Why fish live in water

2. What kind of building does Traders Hill Farm grow lettuce in?

a. A barn
b. A pool house
c. No building, in a field
d. A greenhouse

3. In the passage, the word *nutrients* means:

a. the tiny bits of food a plant needs to grow
b. buildings that keep plants warm
c. bugs that hurt the plants
d. seasons of the year

4. Why can Traders Hill Farm grow lettuce all year long, even in winter?

a. The lettuce grows outside in a field.
b. The greenhouse keeps the plants warm and safe from bad weather.
c. The farmers use a lot of bug spray.
d. Lettuce only grows when it is cold.

5. Write one way that growing lettuce in a *field* is different from growing it in a *greenhouse*.

_____

_____

_____

6. Write one *good thing* and one *hard thing* about growing lettuce in a greenhouse.

Good thing: _____

Hard thing: _____

ANSWER KEY

Name _____ Date _____

Romaine Lettuce Video Trivia & Farm Math



Directions: Answer these trivia questions based on the video you watched about the Florida Romaine Lettuce farm.

1. Lettuce has a vitamin that helps keep something in your body strong.
   a. What is the vitamin called? Vitamin K (2:53)
   b. What does it keep strong? Bones (2:53)
2. What happens to the fish waste at the farm? "It becomes plant food" or "It feeds the lettuce" (3:22–3:33)
3. What temperature is best for growing lettuce? About 70°F (2:01)

Circle whether the statements below are true or false.

4. In aquaponics, fish help the plants grow.	**TRUE** FALSE
5. A garden outside can grow more lettuce in a small space than a greenhouse can.	TRUE **FALSE**
6. Romaine lettuce takes about 35-40 days to grow at Traders Hill Farm.	**TRUE** FALSE
7. Lettuce is part of the pea family	TRUE **FALSE**

Choose the correct word to fill each blank.

Word Bank: **water** · **nursery** · **hydroponics**

8. hydroponics is growing plants in water, not soil.
9. Romaine lettuce is 95% water
10. A nursery is a place where baby plants start growing from seeds.

Continued →

Farm Math

A flat is a tray that holds 25 baby lettuce plants.

Solve each problem and write your answer in the box.

1. Farmer Tracy packed 25 lettuce plants into one flat and 25 plants into another flat. How many lettuce plants are in the two flats total?

   25 + 25 = 50 plants

2. One row on the lettuce farm has 50 flats. If the workers have already planted 32 flats, how many flats are left to finish the row?

   50 - 32 = 18 flats

3. Lettuce takes 40 days to grow. It has been growing for 15 days. How many more days until it's ready to pick?

   40 - 15 = 25 days

4. If there are 5 fish tanks, and each tank has 200 fish, how many fish are there total?

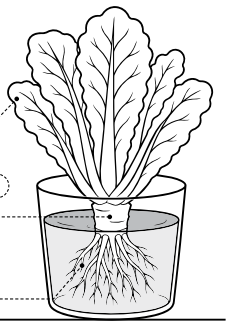
   5 x 200 = 1,000 fish fish

Name _____ Date _____

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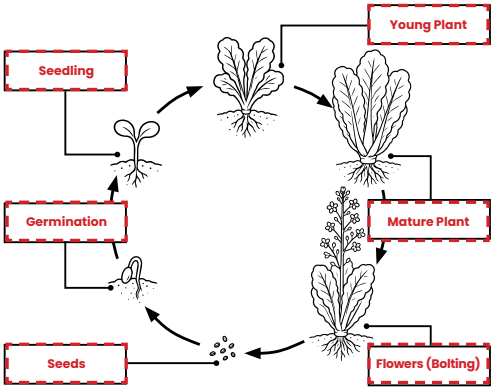
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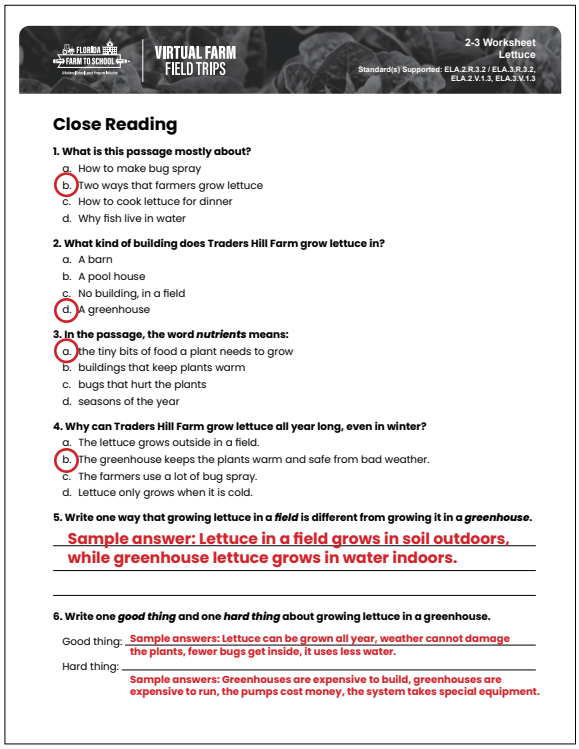
Name _____ Date _____

Life Cycle of Lettuce

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ANSWER KEY



VIRTUAL FARM FIELD TRIPS

2-3 Worksheet
Lettuce
Standard(s) Supported: ELA.2.R.3.2 / ELA.3.R.3.2, ELA.2.V.1.3, ELA.3.V.1.3

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5. Write one way that growing lettuce in a *field* is different from growing it in a *greenhouse*.

Sample answer: Lettuce in a field grows in soil outdoors, while greenhouse lettuce grows in water indoors.

6. Write one *good thing* and one *hard thing* about growing lettuce in a greenhouse.

Good thing: Sample answers: Lettuce can be grown all year, weather cannot damage the plants, fewer bugs get inside, it uses less water.

Hard thing: Sample answers: Greenhouses are expensive to build, greenhouses are expensive to run, the pumps cost money, the system takes special equipment.