THE LIVING YEAR

Apple Farmer Annie: A Fall Unit Study

A free sample from The Living Year. More in the Author's Note.

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SECTION 01

About Apple Farmer Annie & The Living Year

Apple Farmer Annie is a wholesome, beautifully illustrated book by Monica Wellington. It follows Annie through her harvest and market day.

How does this unit study work? Read the book, then choose from the menu of activities: Talk, Life, Math, Art, Science, History & Social Studies.

This unit study is a free sample unit from The Living Year, a seasonal program built around beautiful books, each one opening into around two weeks of learning across every subject.

This unit is built for roughly PreK through Grade 3, ages 4 to 9, with the strongest fit around 5 to 8. It works with more than one child at once: the book anchors your youngest while the activities reach up for your older ones, so one book can serve your whole family.

The ages are a rough guide, not a rule. Skip what is too much, follow what sparks interest, and let a child who is ready reach up for the older activities.

General Guidelines by Age

- PreK (3 to 5): keep it playful. Read the book again and again, talk about the pictures, try some discussion questions, cook together, explore the art materials, taste and touch and notice. At this age, the reading and the conversation are the lesson. Try some of the science and history activities if your child is interested.
- Kindergarten to Grade 2 (5 to 7): read and discuss more deeply, use the beginning-level math, do the art and simple observation activities, try some history.
- Grades 3 to 4 (8 to 9): try the advanced math, the deeper science, careful and accurate art, and the history activities. They can read to the little ones, too.

SECTION 02

Supplies

You truly need three things:

— Apple Farmer Annie by Monica Wellington

— A few apples, 4 to 6, ideally different varieties (get these during the orchard or farmer's market visit activity)

— Paper and something to write and draw with

You almost certainly already have these:

— Basic kitchen things and applesauce ingredients: apples, water, sugar, cinnamon (plus butter and brown sugar for baked apples)

— Washable paint and a plate or tray (apple stamping)

— Coins or play money (the math)

— A phone or computer for the harvest film and the science videos

Nice to have, cheap or optional:

— Two or three kinds of honey (the honey taste test)

— A few extra apple varieties for the taste test

The outing:

— A trip to a pick-your-own orchard or farmers market, best in fall.

— Skip it and watch the harvest film if a trip isn't possible.

SECTION 03

If You Only Do Five Things

Apple Farmer Annie is a menu, not a checklist, and it is deliberately generous. You will not do all of it. If you do nothing else, do these five.

1. **Read the book, more than once.** Slowly. Point at Annie, the apples, the baskets, the market. The second and third reads are where your child notices everything.
2. **Visit a farm or a farmers market.** Smell the apples, feel how heavy a bag is, say hello to the farmer. Can't get out? Watch the real apple-harvest film in the History section instead.
3. **Cook something with apples.** Applesauce is the simplest. Your child measures, stirs, and watches hard apples turn soft, and then you eat it.
4. **Taste-test a few apples and look inside one.** Compare two or three varieties, then cut one across the middle to find the star and count the seeds. This is real scientific observation.
5. **The market-day math (cost, revenue, profit).** Play the game if your little kids don’t do math yet and if the level is appropriate, try the advanced math, including market day critical thinking questions.

Everything else, pollination, the pomology plates, farming then and now, is there for the days you want more and the child who is hungry for it.

SECTION 04

Activity Menu

(star = the core five)

Talk

1. ★ Read together, more than once
2. Narrate & discuss

Life

1. ★ Visit a farm or farmers market
2. ★ Cook: applesauce, applesauce cake, or baked apples
3. Pollination walk
4. Bonus: apple tree movement

Math

1. ★ Beginner: cost, revenue, and profit with coins
2. Advanced: Annie's market-day math investigation

Art

1. Apple stamping
2. Draw Annie's farm from above
3. Apple still life: draw a real apple from life
4. Become a pomological artist

Science

1. How an apple grows
2. Follow your apple: where it was grown
3. Weather in the orchard (critical thinking)
4. ★ Apple taste test: make a hypothesis
5. ★ Look inside an apple: find the star, count the seeds
6. Honey taste test
7. Supplementary videos (optional)
8. The Apple Year: a seasons worksheet

History & Social Studies

1. Watch a real apple harvest
2. From orchard to market
3. Producers and consumers
4. The people who bring you an apple
5. Then and now: how farming has changed

SECTION 05

Sample Two Week Schedule

You might find it helpful to see this suggested schedule to help use this unit study.

Reading & Math are broadly recommended in the morning as a generalization and they should come from a different program. Annie will fill out the rest of your week. One afternoon per week has not been planned, to account for other commitments you may have.

Read Annie as much as you like - my own boys happily read it every day. Your kids might not want to. Follow their lead, but do read it more than once, especially as you do the activities and connect what you're learning to the book.

Week 1

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
MORNING	Reading & math. Read Annie (Talk), then narrate.	Reading & math. Re-read Annie, then 2 to 4 discussion questions.	Reading & math. Re-read Annie, then 2 to 4 discussion questions.	Reading & math. Art 2: draw Annie's farm.	Day off.
LUNCH					
AFTERNOON	Science 1: how an apple grows. Science 8: The Apple Year worksheet. Science 3: weather in the orchard (1 to 3 questions).	Life 1: visit a farm or market. Science 4: apple taste test.	Math: the market-day activity at your child's level. History 3: producers and consumers. Life 2: bake apples.	History 2: from orchard to market. History 4: the people who bring you an apple. Art 3: apple still life.	Day off.

Week 2

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
MORNING	Reading & math. Re-read Annie, then narrate.	Reading & math. Re-read Annie, then 2 to 4 discussion questions.	Reading & math. Re-read Annie, then 2 to 4 discussion questions.	Reading & math. Science 6: honey taste test.	Day off.
LUNCH					
AFTERNOON	Science 2: follow your apple. Science 3: weather in the orchard (1 to 3 questions). Art 4: pomology.	Life 3: pollination. Science 5: look inside an apple. Art 1: apple stamping.	History 1: watch a real apple harvest. History 5: then and now, how apple farming has changed. Science 3: weather in the orchard (1 to 3 questions).	Life 2: bake applesauce cake.	Day off.

SECTION 06

Talk

1. Read

Read Apple Farmer Annie together, slowly. The first time, just enjoy it. Point to Annie, the apples, the baskets, and the market.

Talk about the pictures. Use rich, descriptive words. Instead of “the cat” say “the orange cat” or "the striped cat." Notice the tools Annie uses to cook, and connect them to home: "Do we have one of these? What do we use it for?"

Read it more than once across the week, and shift your focus each time:

- Youngest children: keep it playful. "Where's Annie? Where's the cat?" and let them turn the pages.
- Ask your children to make predictions before you turn the page. “What do you think Annie will do with all those apples?”
- Guessing before you find out is real thinking. There are no wrong guesses.
- Pause and wonder out loud. "Look at all those baskets. How many apples do you think that is?" and try a few of the questions below.

2. Talk

After a reading or two, try a few of these questions. The questions are meant to get your child thinking, so there are no wrong answers.

Retell the story.

What does Annie do first? What comes next? What happens at the end?

Who, what, and when:

- Who is Annie? What does she look like? What is she wearing?
- What does Annie do with all her apples?

— Where does Annie live?

— Where does she take her apples?

— What season is it?

How and why:

— How do you think the apples got from the tree into Annie's baskets?

— Why do you think she works so hard?

— How do you think Annie feels at the end of the day?

Connect it to your child:

— Have you ever been to a market? How was it the same? How was it different?

— If you had a whole orchard of apple trees, what would you make?

— Annie is tired at the end of the day. What do you think she does tomorrow?

— Annie works hard all day. What do you think is hard about her job?

— What do you think would happen if it rained hard on market day?

— Which apple treat would you want to try first?

After the activities, revisit these questions:

— What might be hard about being a farmer?

— What might be fun about being a farmer?

— Would you want to be one?

SECTION 07

Life

Real Life Activities

1. Visit a Farm

Does your area grow apples? If so, visit a pick-your-own orchard or a farmers market this fall.

Smell the apples and feel how heavy a bag is. Ask your child to count the different varieties of apples. Which is the biggest variety? Which is the reddest?

Say hello to the farmer or staff. Ask: How did the season go? What's your most popular item? How long does it take an apple tree to grow? If your child is nervous to talk to an adult, plan a few questions and roleplay the interaction ahead of time to help them feel more comfortable.

Bring a few apples home and use them in the recipes below, so the trip and the kitchen connect.

If an outing isn't possible, see the video included in the History and Social Studies section.

2. Cook

Apple Farmer Annie has recipes in the back of the book. Here are two, from simplest to most involved. There’s a bonus third recipe for a healthy and easy dessert that we make at my home.

Good jobs for children (pick what fits their age and the recipe):

Littlest hands (ages 2-3):

— Wash and dry the apples

— Drop ingredients into the pot or bowl

— Sprinkle the cinnamon

— Stir the batter or the filling

— Mash the cooled applesauce

— Watch through the oven window

— Taste and describe

Bigger kids (4+):

— Count and measure the ingredients

— Pour in the water and squeeze the lemon

— Crack the eggs

— Stir as it cooks, with you

— Read the steps aloud

— Tell you how the apples change from hard to soft

Annie's Applesauce (recipe in the back of the book).

You'll need: 4 to 6 apples, ½ cup of water, ¼ cup sugar, ½ teaspoon of cinnamon

Before it cooks, ask: what do you think will happen to the hard apple pieces? Then watch. After, ask what makes them change.

— Wash, peel, core, and slice 4 medium apples.

— Heat apples and ½ cup water to boiling, then reduce heat.

— Cover and cook slowly until tender and soft.

— Add sugar to taste - about ¼ cup. (You can opt to skip sugar if you would like; it will still be delicious).

— Continue cooking until sugar dissolves.

— For extra flavor, add about ½ teaspoon cinnamon.

— For a finer applesauce, you can pour the cooked mixture through a strainer or sieve.

Applesauce Cake (recipe in the back of the book).

For the cake, you'll need: 9-inch tube pan (or similar volume cake pan), ½ cup butter, 1 cup sugar, 2 eggs, 1 ¼ cup flour, ½ teaspoon baking soda, ½ teaspoon salt, 1 teaspoon cinnamon, 1 cup applesauce, ⅔ cup raisins, ½ teaspoon nutmeg (optional), ½ teaspoon allspice (optional)

— Cream together butter and sugar in a large mixing bowl.

— Add eggs and beat well.

— In a separate bowl, sift together flour, baking soda, salt, and spices.

— Add to creamed mixture alternately with applesauce, beating after each addition and blending well.

— Stir in raisins.

— Pour batter into 9-inch greased tube pan.

— Bake at 375°F (190°C) for 45 minutes until browned (toothpick inserted should come out clean).

— Cool completely, then spread with butter frosting.

For the frosting, you'll need: 2 tablespoons of softened butter, 2 cups of confectioners' sugar, 1 teaspoon of vanilla extract, 3 tablespoons milk.

— Cream together butter, sugar, and vanilla extract.

— Add milk and stir well.

— The frosting should be smooth and easy to spread.

Baked Apples

You'll need: 4 apples (Golden Delicious or Honeycrisp work well), ¼-½ cup packed dark brown sugar, 2 teaspoons ground cinnamon, ¼ teaspoon salt, 1-2 tablespoons of softened butter cut into 4 pieces.

— Wash the apples.

— Core each apple, leaving some at the bottom so it forms a little cup.

— Stir together the brown sugar, cinnamon, and salt.

— Fill each apple with the mixture, then top each with a piece of butter.

— Set the apples in a baking dish with a splash of water in the bottom.

— Bake at 375°F (190°C) for 30 to 45 minutes, until soft when poked with a fork.

— Enjoy, especially good with a scoop of vanilla ice cream.

3. Pollination

Ask your child: why do you think bees visit flowers? Don't give them the answer right away.

Instead, if the season allows, go outside to a place where there are plenty of flowers. If you want, bring some basic drawing supplies with you.

Can you see any bees? What do you think they are doing to the flowers? Can you draw a picture of what you are looking at?

Then, you can tell them: bees come to gather **nectar,** a sweet juice deep inside the flower that they turn into honey.

While a bee is drinking nectar, pollen rubs off the flower onto its fuzzy body. When the bee flies to the next flower, some of that pollen brushes off on it.

Bees make honey so that they can store and eat it for the winter, when there are no flowers to visit.

So the bee is just looking for food, but along the way it does something important: **pollination**.

Can you examine a flower and see if you can see the pollen on it?

Ask your child: why are bees important? After: do you think they help other plants grow too?

Show them the photo on the next page (a higher resolution and larger version is found in the photo credits). It shows the pollen on the bee very clearly.

4. Bonus: Apple Tree Movement

This activity was contributed by Monica Wellington, the author of Apple Farmer Annie. Your child can act out an apple tree in this lovely active activity.

Sit down and make yourselves into a tight little ball (the seed in the ground).

Then, wiggle a hand up (the seed breaking up through the dirt) and slowly stand up (the apple tree starting to grow).

Reach up tall, with your legs strong and straight, and spread your arms (the tree is big).

Next, pick apples from the trees (with a hand from our "tree" and/or reaching to other "trees") and pretend to eat them.

Lastly, a seed falls to the ground: sit back down as a little seed.



SECTION 08

Art

Younger children can explore the materials freely, while older children can slow down, observe details, and make their work accurate.

1. Apple Stamping

You'll need: an apple, washable paint, a shallow plate or tray, paper.

— Cut an apple in half from top to bottom.

— Dip the flat cut side lightly in paint and press it onto paper.

— Try several apple varieties or different paint colors.

Look closely at the shape the apple leaves behind. Can you see where the stem was? Does every apple make exactly the same shape? For another print, cut an apple across the middle instead, and look for the star formed by the seed chambers (the same star from the Learn section).

Try making a repeating apple pattern, a row of apples, or a whole page of overlapping prints.

2. Draw Annie's Farm

You'll need: paper and something to draw with, plus the book to look back at.

Return to the illustrations in Apple Farmer Annie. Imagine you could stand high above Annie’s farm and see the whole thing.

Draw her farm. You can include rows of apple trees, Annie's house, a barn or shed, baskets of apples, a road, Annie's truck, a place to make cider, people working, animals, fences, or hills.

Want a different challenge?

Instead of drawing from the side, imagine you're a bird flying above the market and Annie’s farm. Where would everything be? Add a simple map key using small pictures or symbols.

Find Annie’s path from her orchard to the market. What’s the shortest way for Annie to get her apples there?

3. Apple Still Life

You'll need: two or three apples, paper, and something to draw or paint with.

Artists have painted bowls of fruit for hundreds of years. Look carefully at the examples below. Artists make mundane objects beautiful and interesting.

Arrange two or three apples on a table. You can add a basket, pitcher, folded cloth, leaves, or another simple object from home.

Before drawing, spend a moment just looking:

- Which apple is closest to you? Which looks biggest?
- Where is the light coming from? Which side of each apple is darkest?
- Where do the apples overlap? What shapes do you see? What colors besides red or green?

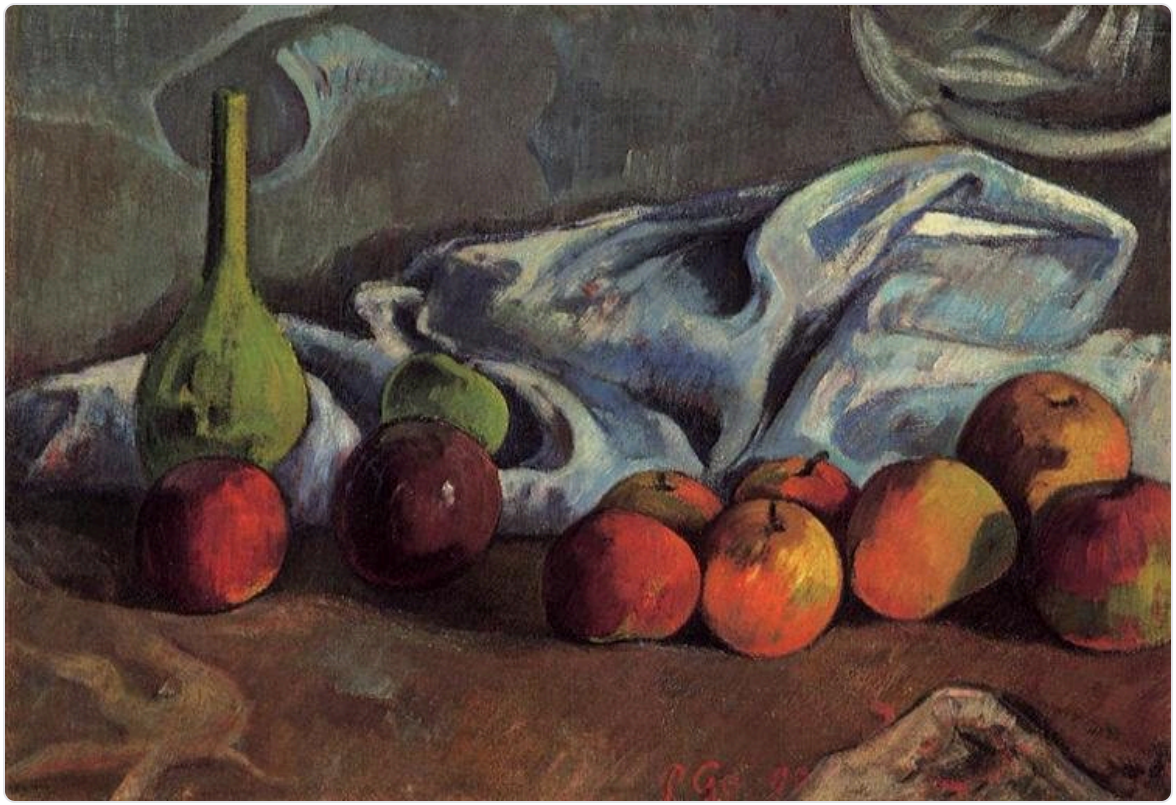
Now draw what you see. Try not to draw what you think an apple should look like. Keep looking back at the real apples.

For younger children: use just one apple. Talk about its shape and colors before drawing.

For older children: find the brightest and darkest parts of the apple, and look at the shadow it casts on the table. Can you use lighter and darker colors to make a flat drawing look round?



Rideau, Cruchon et Compotier, 1893, by Paul Cézanne.



Still life with apples and green vase, 1890, by Paul Gauguin.

4. Become a Pomological Artist

You'll need: an apple, paper, and art or drawing supplies.

Pomology is the study of growing fruit. A **pomologis**t studies apples, pears, peaches, and more.

More than 100 years ago, artists working for the United States Department of Agriculture made extraordinarily detailed paintings of real fruit.

They were keeping records, not making decorations, although many are beautiful. The artists recorded what each variety looked like, its shape, color, markings, stem, even its bruises and imperfections, so growers and scientists could identify and study them. Some of the apples they painted no longer exist. These pictures are the only record we have of them.

Look together at two or three real paintings from the USDA Pomological Watercolor Collection. Ideally, include one of a variety that no longer exists. They are public domain, which means they are available for anyone’s use and viewing.

https://commons.wikimedia.org/wiki/Category:USDA_Pomological_Watercolors_of_apples

Now pretend you are one of those artists. Place a real apple in front of you and look carefully:

— Is it perfectly round?

— Is it wider at the top or the bottom?

— Where is it red, yellow, or green?

— Does it have stripes or spots?

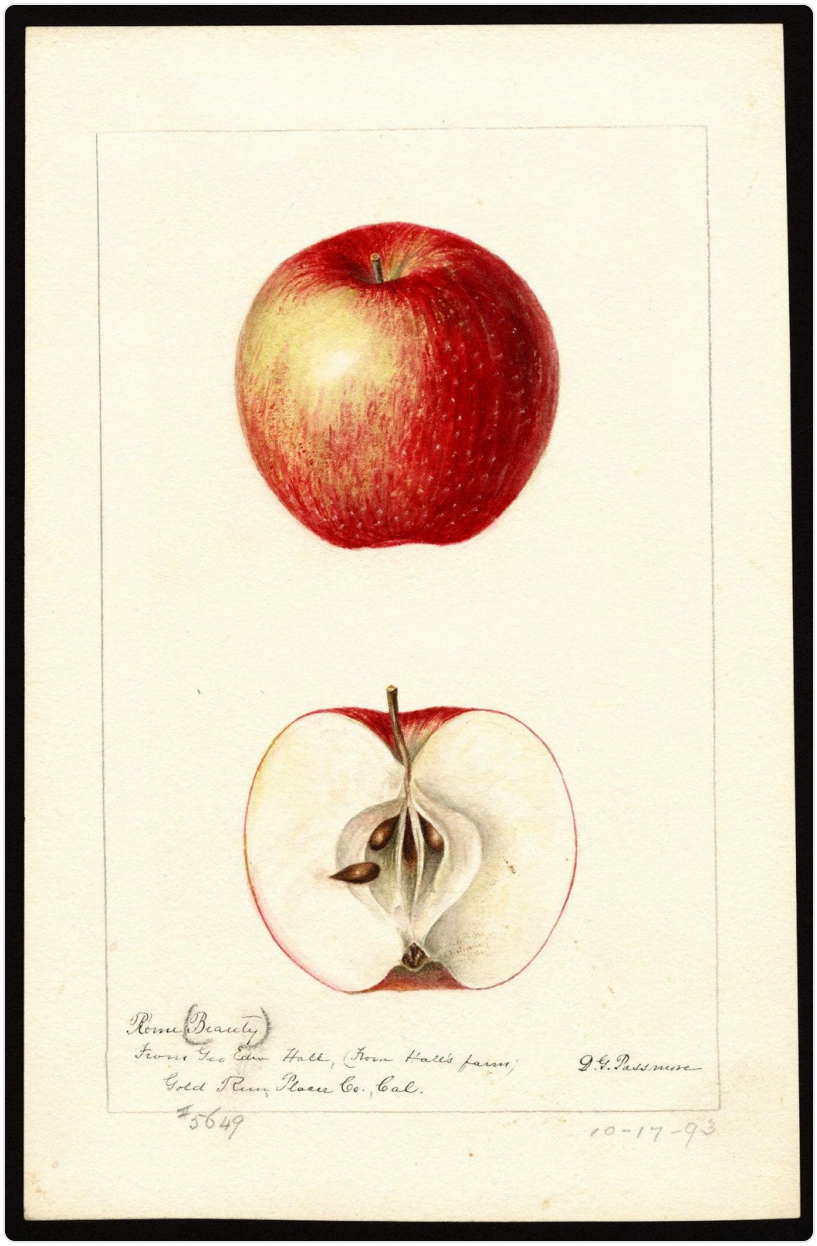
— Is the stem straight or crooked?

— Are there any bruises or marks?

Draw or paint the apple as accurately as you can. Then cut it open and draw the inside beside it. Can you mix red, green, and yellow paint to match your apple's exact color?

There are two goals to this activity: first, to observe, and second, to be accurate, not perfect.

Older children can make a real pomology plate. Add: Variety _____, Color _____, Date _____, Grown in _____.



SECTION 09

Math

Annie's Market Day: A Family Math Investigation

Math ability varies widely across ages, so pick the one that fits your child. The concepts of cost, revenue, and profit can be introduced to any child in simple ways.

There are two options for this section. You can either use the attached worksheets if you want or follow along here on a separate piece of paper.

The Beginners work will also need coins, play money, placeholder objects, or something to make drawings with.

Beginners: PreK to Grade 1 (ages 4-6)

Skills: Counting, counting by 2s, comparing more vs less.

1. If Annie has 4 bags of apples and each costs $1 to make, what did it cost her to make them?

Put out one coin per bag and count them.

It cost Annie $4. That is her **cost.**

2. At the market, Annie sells each bag for $2. How much money does she earn from selling her bags at market?

Put out 2 coins per bag, then count by 2s: 2, 4, 6, 8.

Annie got $8. That is called her **revenue.**

3. Did Annie make money?

Make two piles: spent ($4) and got ($8). Which is bigger?

Annie got more money than she spent, so she made money. How much money does she keep?

The extra she keeps is **profit:** $8 − $4 = $4.

4. How could Annie earn more money next time? No wrong answers.

5. Annie also made 3 jars of applesauce, each costing $1 and selling for $2. Cost: count 3 coins ($3). Selling: count by 2s, 2, 4, 6 ($6).

Did Annie make money on the applesauce? She spent $3 and got $6. $6 - $3 = $3. $3 is her profit.

Advanced: Grades 2 to 3 (ages 7-8)

Practiced skills: Multiplication, addition, subtraction, and division.

On Monday, Annie picked her apples. She kept some fresh. On Tuesday, Wednesday, and Thursday, she used the rest to make applesauce, muffins, and cider. On Friday, she loaded her truck. On Saturday, she drove to the farmers market.

Running a farm costs money. She had to buy bags and jars, and ingredients to make her **goods**. Did Annie earn more at the market than she spent getting ready?

What Annie brings to market:

— Bags of apples: 20, cost $1 each, sell $5 each

— Jars of applesauce: 10, cost $2 each, sell $6 each

— Dozens of muffins: 10, cost $3 each, sell $8 each

— Jugs of cider: 5, cost $2 each, sell $8 each

1. What did it cost Annie to get ready?

— 10 dozen muffins at $3 each. Total? $_____ (30)

— 20 bags of apples at $1 each. Total? $_____ (20)

— 10 jars of applesauce at $2 each. Total? $_____ (20)

— 5 jugs of cider at $2 each. Total? $_____ (10)

— Add them all up. Annie's total cost: $_____ (80)

The amount of money Annie spends to make her goods for sale is called her **cost**.

2. Annie sells everything at the market.

— 20 bags of apples at $5 each. How much? $_____ (100)

— 10 jars of applesauce at $6 each. How much? $_____ (60)

— 10 dozen muffins at $8 each. How much? $_____ (80)

— 5 jugs of cider at $8 each. How much? $_____ (40)

— Add it all up. The money Annie collected is her **revenue**: $_____ (280)

3. Did Annie make money?

Annie collected money, but she can't keep all of it, because it cost her money to prepare everything.

— Revenue: $_____ (280)

— Cost: $_____ (80)

— Revenue − Cost = Profit: $_____ − $_____ = $_____ (280 − 80 = 200)

Annie's **profit** is the money she has left after paying her costs.

4. If Annie was at the market for five hours, how much money did she earn per hour?

— $200 ÷ 5 = $_____ per hour (40)

— Did she really only work 5 hours? What did she do all week before market day?

5. How can Annie increase her profit next Saturday?

Pick an idea, then use math to test it. No one idea is right. Just look for the math to be accurate.

— What if she sold more bags of apples?

— What if she charged $6 instead of $5 per bag?

— What if she made more of whatever earned the most?

— What if she found a way to make something for less?

— What would you change if this were your farm?

— What other expenses are we not considering here? (Time, effort, taxes, gas, insurance)

SECTION 10

Science

> **1. Learn: How an Apple Grows**

Annie's apples didn't start in baskets. They started as flowers, and it took most of a year to get from one to the other. Follow an apple tree through the seasons, a little at a time.

From Blossom to Apple

1. Winter: the tree rests, bare and dormant.



2. Early spring: the buds slowly develop into flowers.



3. Spring: the developing buds open into pink and white flowers. The tree is blossoming.



4. Spring: bees carry pollen from flower to flower. This is called **pollination**.



5. Late spring: the petals drop, and a tiny green apple appears where each flower was.



6. Summer: the apples swell and grow, fed by sun and water.



7. Fall: the apples become ripe and they are picked. This is called the harvest.

Then it starts again.



> **2. Follow Your Apple**

Ask your child: why can you grow a banana in Hawaii, but not an apple? Don’t worry about being wrong or right. You’re just trying to get them to think and reason.

The answer: Apple trees need four seasons.

They need a real winter so that it gets cold enough for the tree to rest.

Then, the spring shouldn’t have a late hard frost, or the blossoms would die.

Then they need a warm summer with rain. If the rain is too heavy, it can bruise or split apples. Hail can knock apples down.

Fall has to have rain and early cold near harvest time.

Next time you buy apples, find where they were grown on the sticker or package. Find that place on a map, then find your home.

How did the apple travel? How far did it come?

Are apples grown near where you live? Why or why not, given what you learned about the climate they need?

(Parents, just an FYI for you: humans breed certain traits into fruit. So there are now low-chill varieties of apple that actually can grow in Hawaii at high elevations.)

> **3. Weather in the Orchard - Critical Thinking Exercise**

Spring

— Annie's trees are in full blossom and a freeze is coming tonight. Why might she worry? (Frost might kill the blossoms).

— It's been cold and rainy all week while the trees are blooming, and Annie has barely seen a bee. What might that mean for Annie's harvest? (Fewer apples because of less pollination).

Summer

— The ground is dry and cracked, because it hasn't rained in weeks. What might happen to the growing apples? (Stay smaller, grow more slowly, drop from tree early).

— A summer storm rolls in with hail. What might happen to the apples on the trees? (Bruise, knock down).

Fall

— Annie's apples are almost ripe, but the weather forecast says heavy rain tomorrow. What might she decide to do today? (Harvest early).

— An early frost is coming, but half of Annie’s apples are still on the trees. Why might Annie suddenly be rushing to pick? (Frost can damage the apples).

Want to go further for older kids?

Real farmers have clever ways to fight the weather.

Wind machines and even sprinklers can protect blossoms from frost.

Netting guards against hail.

Picking early can protect apples from an incoming storm.

Pick one of the above problems, or think of your own, and research how real orchards handle it in the 21st century. How was it handled in the past?

4. Observe Like a Scientist: Apple Taste Test

Scientists make predictions called **hypotheses** (the singular is hypothesis). Then, they test their hypotheses by observing what happens in the real world and comparing the observation to their prediction.

In this activity, your family will make several hypotheses about apples and then see if you were right. Don’t worry if your predictions are wrong. It happens all the time in the real world.

Choose at least two or three **varieties** (Gala, Honeycrisp, McIntosh, Granny Smith, Golden Delicious, etc) and compare them.

Make some predictions. Which apple do you think will have the most seeds? Which will be the crispest? The sweetest? Say your guesses out loud or write them down.

Then test your predictions by eating the apples, paying careful attention to the taste. The point isn't a favorite or to find what tastes best. It's to look closely and describe what's really there.

What do you actually observe? Ask: color, size, firmness, number of seeds, smell, sweetness, tartness. Which was biggest? Most seeds? Crispest? Tartest?

Pre-readers tell you what they notice while you write it down. Older kids can use tally marks, drawings, or labels.

Predictions:

Which apple do you think will have the most seeds? _____

Which will be the crispest? _____

The softest? _____

Which will be the sweetest? _____

The tartest? _____

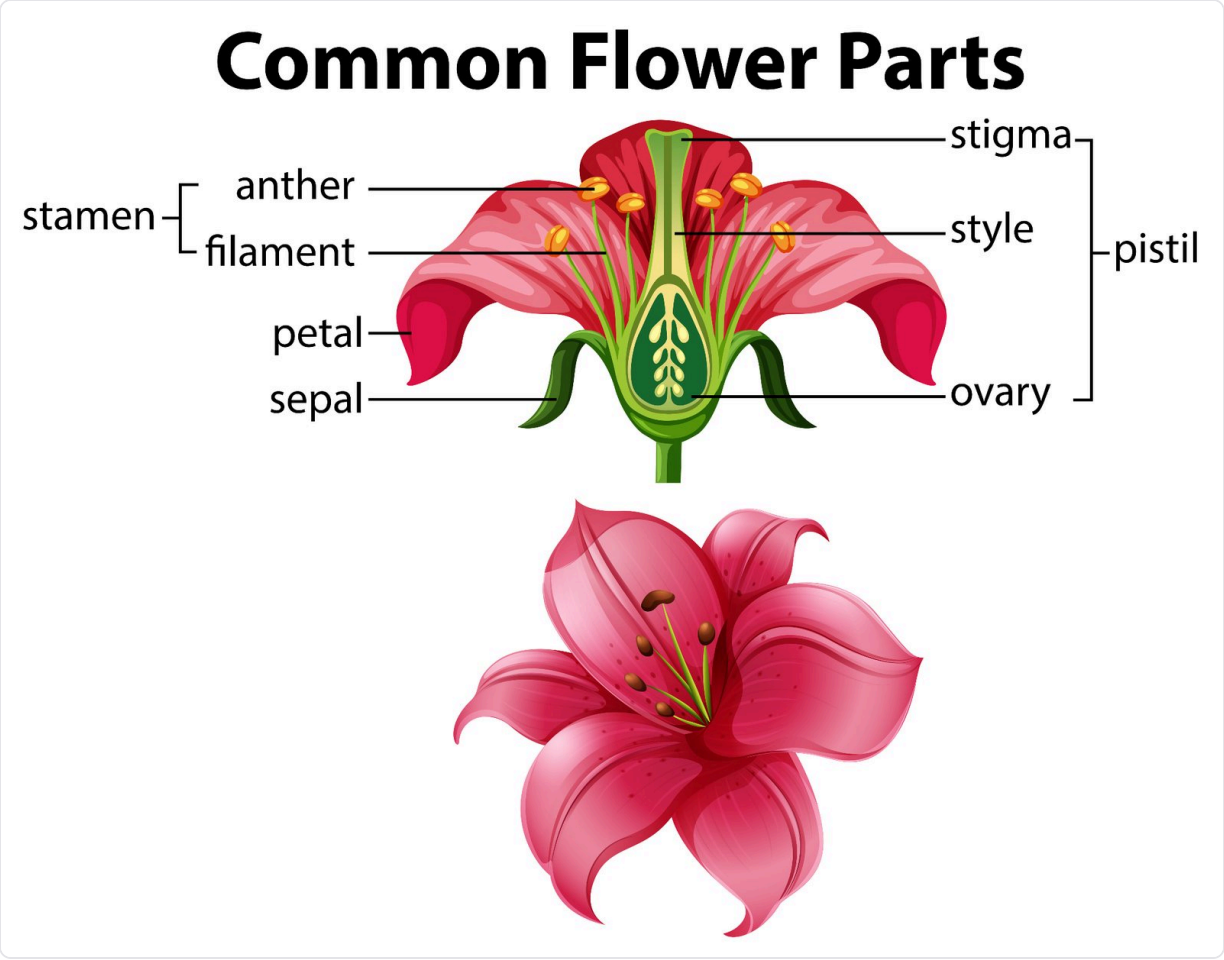
VARIETY	COLOR	SIZE	SEEDS	CRISP OR SOFT	SWEET OR TART	OTHER NOTES

5. Look Inside an Apple

Did you know the apple in your hand used to be a flower?

For little ones: when the apple was a flower, bees pollinated it. That pollen helped the flower to become a fruit. The fruit contains seeds, which are really baby apple trees. The star in the middle of the fruit is where the seeds are.

For older kids, introduce the real words. Every apple blossom had two kinds of parts. The male parts are called the stamens. They make pollen, the yellow dust inside flowers. The female part, the pistil, down in the center, is the part that becomes the apple.



A tree cannot pollinate itself. You need two different trees. One tree provides the pollen and the other provides the ovary. That's why bees have to carry pollen from one tree to another.

When a bee carried pollen from the male part of one flower to the female part of a flower on a different tree, the pollen traveled down and fertilized the tiny eggs inside.

Each fertilized egg grew into a seed, and the female part grew into the apple around them. The seeds inside the fruit are baby apple trees.

Now cut one across the middle, not stem to bottom, and look:

— Find the little star. Those are the seed chambers, the exact spot where the seeds formed.

— Count the seeds. More seeds means the flower was well pollinated, so more eggs got fertilized. Just a few means the bees didn't visit much.

Ask your child, “if I plant the seed of a _____ [pick a variety you have] apple, will it grow the same type of tree?” The goal is just to get them thinking. It’s okay to not know or to be wrong.

Answer: Seeds are like kids. So if you have two different seeds in one apple, each of those seeds has a different mix of traits from the parents. It’s like siblings who share parents but aren't identical.

If farmers want to grow the same type of apple, they use a method called grafting. They might join a small piece of a Honeycrisp tree onto the roots of a young tree and then it grows true Honeycrisp apples.

> **6. Honey Taste Test**

You'll need: two or three kinds of honey (clover, orange blossom, blueberry, wildflower, and buckwheat all taste different), spoons, and crackers or apple slices.

Ask your child: how much honey do you think one honeybee makes in its whole life?

About one twelfth of a teaspoon. That's it. One tiny drop, for a lifetime of work. And to make just one pound of honey, a hive visits about two million flowers.

For little ones: don't worry about the big number. Put a tiny 1/12 teaspoon of honey on a spoon (approximate it), and tell them one bee makes only that much in its whole life, after visiting more flowers than they could ever count. Bees work so hard for one little drop.

Older kids: make it personal. How much does your child weigh? If bees had to make that much honey by weight, how many flowers would they visit? Multiply their weight in pounds by two million.

So to make 50 pounds of honey, about what a 50-pound child weighs, bees would visit 100 million flowers.

Write that number down on a piece of paper so they can see how big it is. Is it bigger than a hundred? Than a thousand? Let it sink in.

Then taste what all that work makes.

Honey can taste different depending on where the bees harvest nectar.

Line them up lightest to darkest. Predict which one will taste the strongest, then taste each. Which is sweetest? Which is boldest?

The darker the honey, the stronger the flavor. See if that rule holds for your honey.

> **7. Supplementary Videos - Optional**

— Bees Pollinating Apple Blossoms - https://www.youtube.com/watch?v=DmQ4_9ITqiM

— Apple Blossom to Fruit Time Lapse - https://www.youtube.com/watch?v=XFCzpFWpEIo

— Like Fruit? Thank a Bee - Scishow Kids - https://www.youtube.com/watch?v=txv2k7OoY7U

> **8. The Apple Year (worksheet)**

See attached PDF.

Fill in what happens to the apple tree each season and draw a picture in the right column.

SECTION 11

History & Social Studies

History and Social Studies

Apples are a simple and accessible way to introduce young children to farms, work, communities, and how food travels.

1. Watch a Real Apple Harvest

Watch a real apple **harvest.**

Okanagan: Canada's Apple Valley: nfb.ca/film/okanagan-canadas-apple

"Okanagan: Canada's Apple Valley" is a 5-minute 1955 National Film Board of Canada documentary that follows the harvest at a large orchard near Kelowna, British Columbia.

Before watching, ask what jobs happen after an apple is picked. After, compare it to Annie's farm: what looked old-fashioned, what looked familiar?

2. From Orchard to Market

An orchard is a farm where fruit trees are grown.

Growing the apples is only the beginning. After apples are picked, they may be collected in bins, sorted, packed, stored, loaded onto trucks, and sold. Some are sold fresh and others become applesauce, cider, juice, or baked goods.

Annie only drives her apples a short way to market. But apples from a big farm may travel much farther: from the orchard to a **packing house**, then into cold storage, then by truck to a store, and finally to a family's table.

Make a farm-to-table sequence. Draw or print pictures of an apple tree, a picker, an orchard bin, a packing house, a truck, a store, and a family table. Mix them up, then put them back in order.

For little ones: What work did Annie do before she could sell her apples?

For older children: what happens at each step, and what could go wrong along the way?

3. Producers and Consumers

We depend on many people to make the things we use. Some people, like Annie, make things other people want.

Someone who makes something to sell is a producer. Someone who buys or uses that something is a consumer.

Annie is a producer and her customers are consumers. Annie is also a consumer when she buys jars, flour, or tools for her farm.

Talk about it: who produced the apple on your table? The basket it's in? The jar for the applesauce?

4. The People Who Bring You an Apple

Every apple you eat passed through many hands before it reached you.

There is the grower who tends the trees, the pickers who harvest them, the packers who sort and box them, the driver who trucks them to the store, and the grocer who sells them.

Think about and name all the roles involved in getting the apple to the store. Then talk about how each one depends on the others: the picker needs the grower's trees, the grocer needs the driver's truck, and you need all of them.

Ask your child, why don't we each just grow our own apples? Because people **specialize**. One person grows apples well and another bakes bread well. Then they **trade**. That is how communities and markets work.

For older children: pick one of these jobs and find out what it really involves. Find hourly pay rates and compare to the price of apples at the store.

5. Then and Now: How Farming Has Changed

Children don't need dates to start understanding history. Just compare two pictures: an old apple-orchard photograph beside a modern one.

For younger children, spotting the differences is plenty. Older ones can start asking why things changed.

The Library of Congress has several photographs dated between 1915 to 1923 of an apple orchard in the public domain (Harris & Ewing). There are only about seven, and that's part of what makes them special: they're some of the only pictures we have of that orchard.

Those pictures are a **historical source**. They're evidence of what the past was actually like.

Harris & Ewing Apple Orchard photos: https://www.loc.gov/pictures/search/?q=apple%20orchard&co=hec

They are also included on the last pages of this section.

Look quietly first, then ask: What do you notice? What are the people wearing? What are the apples being put into? Any machines or tractors? How do you think the apples were moved?

Then bring in the present. Either use what your child knows today, or watch the free FarmFood360 apple tour, which shows a tour of a modern apple orchard: (farmfood360.ca/en/apple-orchard).

What did you see the last time you were at an orchard or a farm stand? What do apples come in at the store today? What looks different from a hundred years ago, and what looks exactly the same, if anything?















SECTION 12

What did your child learn?

What was your child actually learning?

That looked like a fun time with apples.

Underneath, real learning was happening in every part. Here's why each one matters at this age.

Discussion and Retelling. Retelling is essentially another word for the Charlotte Mason technique known as narration. It helps build comprehension and lets you know if your child really understood the story. It also improves their memory. Open questions like "why do you think Annie works so hard?" teach a child to reason and form their own opinions. A child who can discuss and retell accurately is preparing for reading and writing.

Real Life Activities. Cooking and outings are how a small child first learns they're capable. It builds focus and steady hands, and it pays off with something real to eat. For a little one, real work isn't a metaphor, it's deeply satisfying, and it turns the story into their own kitchen and their own town. Counting is math, following steps is comprehension and an exercise in following directions, and cooking is an extremely important life skill.

Math and Economics. Young children meet math best as real objects and real questions, not symbols on a page. Counting apples, comparing piles, working out whether Annie earned more than she spent, is math they can touch. Cost, revenue, and profit sound like advanced concepts for children, but they're just money in, money out, and what's left. Meet those words now, inside a story, and they feel familiar for later.

Art. Drawing an apple from life teaches a child to really look. Small children are rarely asked to slow down and observe that closely, especially in a time of reduced attention spans. Copying a real painting connects them to real artists doing real work.

Science. At this age, science is watching natural processes. Make predictions and compare them to reality. When your child compares two apples and writes down what they notice, they’re making real observations just like scientists do.

History and Social Studies. For a young child, history is discovering that the world used to be different, and that we often know how. Looking at real hundred-year-old orchard photographs next to the world they know plants the first seed of thinking carefully about the past, and about where our information comes from. They also meet a first idea from social studies: food travels from the people who grow it to the people who buy it.

SECTION 13

Glossary

Math

— Cost: the money Annie spends to make or grow what she sells.

— Profit: what's left after costs are subtracted. Revenue minus cost.

— Revenue: the money a business receives from selling its goods.

Science

— Blossom: the flower of a fruit tree.

— Harvest: gathering the ripe crop.

— Hypothesis: An educated prediction that you can test to find out whether it is correct.

— Nectar: a sweet juice deep inside the flower that bees turn into honey

— Orchard: a farm where fruit trees are grown.

— Pollination: bees carrying pollen from flower to flower so fruit can grow.

— Pomologist: someone who studies fruits like apples, peaches, pears, etc.

— Pomology: the study of growing fruit.

— Ripe: fully grown and ready to pick or eat.

— Variety: a particular kind of apple.

History, Geography, and Social Studies

— Consumer: someone who buys or uses something.

— Goods: things that are made or grown to be sold, like apples, jars of applesauce, or baskets.

— Historical source: something left from the past, like a photograph, a letter, or an old record, that gives us evidence of what really happened.

— Market: a place where people come to buy and sell things.

— Packing house: a building where picked fruit is sorted, cleaned, and packed before it is sent to stores.

— Producer: someone who makes or grows something to sell.

— Specialize: to focus on doing one thing well. One person grows apples, another bakes bread, and they trade.

— Trade: to give one thing in order to get another. People trade so everyone can have what they need.

SECTION 14

Author's Note

Hi, I'm Val. I hope you and your family loved this.

This is a full free sample from something bigger I'm building: The Living Year, a seasonal program built around beautiful books, each one with a thought-provoking but gentle unit study, grounded in the real world and a Charlotte Mason approach to learning.

I built this for a few reasons.

There was nothing I wanted to use for my twin boys in the early years. So many programs were fluffy, or cutesy, or drilling skills I felt would come on their own. I didn't love the focus on 'fun.' Sometimes learning isn't fun, and that doesn't make it any less worth doing. I wanted my sons' work to be interesting and rewarding, for them and for me.

Little children deserve to be taken seriously. Not with worksheets and busywork, but with real books, real ideas, and real things to do. They need to learn how to think, and for that they need to be treated with respect. So the science is real science. The history hands them real sources. The math uses real words like cost and profit. The art sends them to real paintings, not cartoons.

We used to expect more of children. Beatrix Potter was written for young children. Compare her language to the average kids' shelf today. Children can do so much more than we give them credit for.

The most important thing I can give my boys is a love of learning, a fascination for the real world, and the ability to think and ask their own questions. That is what I tried to build here.

Each unit like this takes dozens of hours: finding the right book, tracking down and verifying real sources, writing questions worth asking, drafting, editing, and making it look nice.

Apple Farmer Annie is a standalone fall unit, and it's just the start.

The first winter unit, Owl Moon is due for release in October 2026. You can purchase it for $3.99 USD + tax on homeschoolteacherguide.com. If you use it and leave a review, you will receive a free sample of the Living Year Winter Companion, which contains additional winter activities in the Charlotte Mason style. These include picture study, music study, poetry, copywork, and nature journal pages to pair with Owl Moon.

More releases are coming in 2027.

So, what did you think? If the unit studies on Apple Farmer Annie or Owl Moon worked for your family, the single most helpful thing you can do is leave an honest review. Tell me what your kids loved and what fell flat. As a thank you, I'll send you the Winter Companion sample: picture study, music, and poetry to use alongside any winter book.

You can review Annie here. https://forms.gle/6pcgMsDBsp3dxTFV7

You can write to me anytime at contact@homeschoolteacherguide.com. I read every email, and what you tell me shapes what I build next.

Thank you for trusting my work.

Valentina

SECTION 15

Referrals

If this brought a good afternoon with your kids, the kindest thing you can do is hand it to a friend who needs it too.

Share it with a friend and I'll make it worth your while with four special rewards.

Each Living Year season will also include a Charlotte Mason-inspired Companion. The Companion will include curated collections of standout artwork, music and poetry, all gently guided for your study, so you can introduce the arts to your child as you move through the seasons.

Each Companion also comes with unique, seasonal nature journal pages, with the full seasonal companion also slated to include a full nature journal printable.

How it works: send your friend to the free unit and have them enter your email in the "referred by" box when they sign up (or email me and let me know if the box isn't there).

Every friend you send gets the same free unit you loved, free.

Here's what you unlock:

— 1 friend: the Fall Companion, Art & Music, picture & music study.

— 2 friends: the Fall Companion, Poetry & Copywork, fall poems and beautiful lines to copy.

— 3 friends: the Fall Nature Journal, printable pages for watching the season change.

— 4 friends: 25% off the Spring bundle, five unit studies and the full companion on launch.

Thank you for sharing something real.

SECTION 16

Photo Credits

Life Section

— Bee photo from https://pxhere.com/en/photo/1208352

Science Section

All images free for commercial and non-commercial use.

— Buds from Pxhere, unknown photographer https://pxhere.com/en/photo/638701

— Beginning spring buds by George Eeirmann - https://unsplash.com/photos/pink-flower-buds-on-a-green-leafy-stem-XP6AHnDNEho

— Apple blossoms by Artur Łuczka https://unsplash.com/photos/white-and-pink-flower-in-tilt-shift-lens-qWo1Bgog_hE

— Bee pollinating apple blossoms by Kirriakos Veros - available for hire - https://unsplash.com/photos/a-bee-collects-nectar-from-a-blooming-apple-blossom-ZJsROMX7zHs

— Green apples on tree by Sergej https://unsplash.com/photos/green-leaves-and-developing-fruits-on-a-tree-branch-2y72XRdRob0

— Unripe apples by Laurie Pace https://www.pexels.com/photo/green-apples-hanging-from-a-tree-8160250/

— Apples on tree by Markus Spiske https://unsplash.com/photos/a-tree-filled-with-lots-of-red-apples-GvqG5tKsPBE