



Sample Discovery Unit





Fourth Edition : Acknowledgements

The WISE program units and training was developed jointly by:

Leanne Whiteside-Mansell, Ed.D.,

Taren Swindle, Ph. D., and

Marcy White, B.S.

The WISE development project was funded by a USDA AFRI grant and led by:

Leanne Whiteside-Mansell, Ed.D.

University of Arkansas for Medical Sciences, College of Medicine
Professor, Department of Family & Preventive Medicine (DFPM),
Director of the DFPM Research and Evaluation Division (RED)

BioVentures, LLC retains the copyright to the WISE curriculum and manual.

Collaborators in the development of WISE include:

Save the Children Head Start, Russellville, AR

North Little Rock School District Early Education Program, North Little Rock, AR

University of Arkansas for Medical Sciences Head Start, Little Rock, AR

Louisiana Tech University, Ruston, LA



The development and production of these units was

made possible with the support of the following reviewers:

Karen Davenport, Irma Carrillo, Danya Johnson, Alecia Hamilton, and Mark Currey.

Funding for this project was partially provided by:

This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S.

Department of Agriculture, under award number 2011-69001-30014. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

These services are available to all eligible persons, regardless of race, gender, age, disability, or religion.

Suggested Citation:

Whiteside-Mansell*, L., Swindle,* T. & White,* M. (2015). WISE practitioner manual. Little Rock, AR: RED/UAMS.

* these authors contributed equally to the WISE curriculum and manual.



Contents

Appetizer for Educators	4
Delicious Stuff to Know	5
Vocabulary	6
Calendar to Guide Experience	7
The FIRST Bite	6
S1 : A Letter from the Farmer	8
S3 : Exploring Bell Peppers	10
FFVP Lessons Menu	10
S4 : Many Ways to Eat a Berry	12
The LAST Bite	14
À La Carte	15
Recommended Reading	15
Farmer's Letter	18





Discovery Unit Sample: Sweet Potatoes

Delicious stuff to know

Sweet potatoes are one of the healthiest vegetables and a tasty way to build a strong body. One medium sweet potato is:

- Cholesterol and fat free
- Low in calories and sodium
- An excellent source of potassium, calcium, iron, beta carotene, and fiber
- A great way to get vitamins A, B1, B6, C, and E

Some sweet facts:

- Sweet potatoes are even more nutritious if cooked and eaten with the skin left on.
- Despite their name, they are not a potato but a root plant in the morning glory family.
- They aren't just for Thanksgiving and Christmas. They can be enjoyed year round in a variety of forms such as baked, mashed, chips, casseroles, and more!
- The skin color may be white to yellow, red, purple, or brown. The flesh ranges in color from white to yellow, orange, or orange-red.
- In the U.S., the terms sweet potato and yam are both used.
- The average American consumes 4.5 pounds of sweet potatoes per year.



***Note for Teachers:** This fact sheet is meant to provide you and the parents of your class with more information about this month's fruit / vegetable. However, teachers do not have to teach this page. Kids can focus on the experience with the food !



Discovery Unit Sample: Tomatoes

Tomato Vocabulary

Blossom

Raw/Cooked

Canned

Ripe

Fresh

Round

Fruit

Seeds

Garden

Skin

Ingredient

Sour

Leaves

Stake

Plant

Sweet

Product

Vine





Discovery Unit Sample: Tomatoes

Calendar to Guide Experience

	MON	TUE	WED	THU	FRI
Week 1	First Bite: Farmer letter (pg 6)		First Bite: Tomatoes arrive		First Bite: Exploring Fruit/Vegetable (pg 8)
Week 2		Á La Carte: Recommended Reading (pg 23)		FFVP Lesson: Cross sections (pg 10)	
Week 3	First Bite: Second Reading Farmer letter (pg 6)			FFVP Lesson: Fact and Fiction (pg 12)	
Week 4				FFVP Lesson: Choose from Menu (pg 10-20)	The Last Bite: Class chart or Paper Cut-out (pg 22)

ESSENTIAL TO WISE - First Bite & FFVP Lessons

First Bite is a critical step in WISE. This excites children and is a great way to link to many other academic activities. **FFVP Lessons** provide steps to tasting raw fruits or vegetables and recipes for the classroom that engage children.

Extends learning and loving food - Á La Carte & The Last Bite

Select from exciting ideas in **Á La Carte** to extend the WISE lesson to reading, math, and science. Finally, ending is important too! Choose from **The Last Bite** to pull the month of exploring and fun together.



Discovery Unit Sample: Apples

SI : A Letter from the Farmer

Prepare:

- Place the farmer's letter in an envelope and seal.
- Place the sealed envelope next to the owl puppet in your group gathering area.
- Have pictures ready to display and a star sticker ready to place on your map.

Share:

Call students' attention to the letter. Open the letter and read aloud enthusiastically, pausing periodically to define new words and to add photos to your display. After reading, find the farmer's home town on the map and mark with a sticker. How near is the farmer's town to your own home town?

Read the letter a second time. After you finish the second reading, ask discussion questions such as:

- *Where do the farmers grow their fruit?*
- *What is their favorite fruit?*
- *When do the farmers plant their apples? Why?*
- *What does the apple tree look like?*
- *What do the farmers do with their apples?*

What questions do students have about apples? What else would they like to learn? (Make a KWL chart, if desired.)

WISE Ideas:

Vegetables and fruits, including Apples, are grown in gardens and on farms. Fruit – like apples – needs soil, sunlight, water, and air to grow. It also needs to have enough space to grow. If the air temperature is too hot or too cold, the plant may not be able to grow well.

Apple trees grow sweet smelling blossoms in the springtime. The blossoms' petals fall off as the apples begin to appear.

Apples can be used in many ways, cooked or raw. They can also be eaten all by themselves.





Discovery Unit 1: Apples

Curriculum Connections:

Arkansas Science Curriculum Framework

- *LS.2.K.1 Classify living and non-living things.*
- *LS.1.K.2 Differentiate between plants and animals.*
- *LS.K.2.K.4 Identify basic needs of plants and animals – food water, light, air, space.*
- *LS.3.K.1 Describe plant development and growth.*
- *ESS.8.K.6 Describe the four seasons.*

- *LS.2.1.4 Locate plant parts – leaves, stems, flowers, roots.*
- *ESS.8.1.4 Identify the sequence of the seasons.*

Arkansas Social Studies Framework

- *G.1.K.3 Identify the state of Arkansas on a map of the United States.*
- *G.1.1.1 Identify and locate students' towns/cities on an appropriate map.*
- *G.1.1.2 Locate Arkansas on a United States map.*
- *G.2.1.3 Identify the difference between rural and urban areas.*

Common Core English Language Arts

- *RI.K.1 With prompting and support, ask and answer questions about key details in the text.*
- *SL.K.2 Confirm understanding of a text read aloud or information presented orally or through media by asking and answering questions about key details and requesting clarification if something is not understood.*
- *RI.K.7 With prompting and support, describe the relationship between illustrations and the text in which they appear. (e.g. what person, place, thing, or idea in the text an illustration depicts.)*
- *SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.*

- *RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.*





Discovery Unit Sample: Bell Peppers

S3 : Exploring Bell Peppers

When: After bell peppers arrive, but before doing a Food Experience with this food

Where: Small group time

Ingredients: (for class of 20)

- 4 whole bell peppers - choose 2-3 different colors.

Supplies:

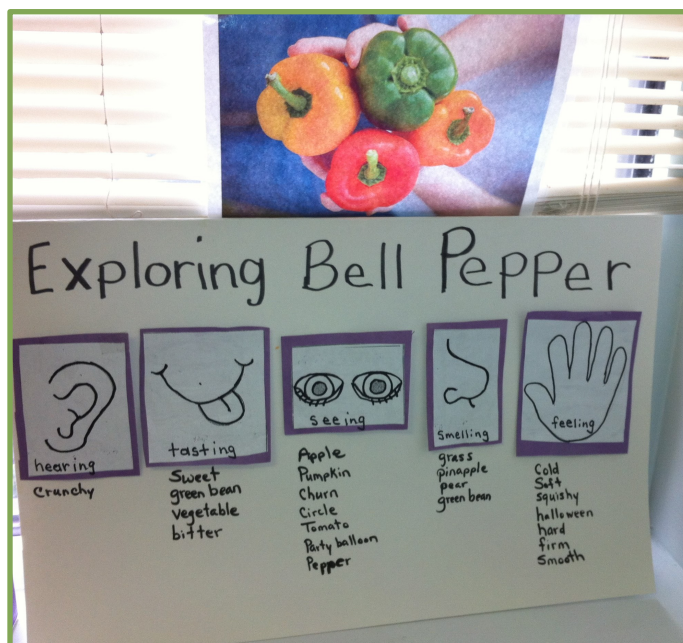
- Cutting board
- Sharp knife, such as paring knife
- Chart paper and marker
- 5 senses labels from kit



Safety note: Do not leave any knife in reach of children without direct, careful adult supervision.

Preparation:

- ⇒ Divide the chart paper into quarters, and add a pictorial label to each section: eye, hand, nose, and mouth.
- ⇒ Clean and sanitize the small group table as you would for snack time, and have children and adults wash hands before the activity begins.
- ⇒ Wash bell peppers.





Discovery Unit Sample: Bell Peppers

Activity:

- ⇒ Have peppers available for each group to see. Slice one pepper for each group to examine inside.
- ⇒ Give each child a bell pepper to hold.
- ⇒ Ask children to look closely at the bell peppers. How do they look? List children's descriptive words on the section of the chart marked with an eye. As children discuss the bell peppers, use words such as stem and skin in context.
- ⇒ Next, ask children to tell you about how the bell peppers feel. List these words on the section of the chart marked with a hand. Introduce words such as smooth, shiny, bumpy, and firm.
- ⇒ Slice a bell pepper and give each child a piece. As they examine their cut pieces, are there any words that children would like to add to the sight and/or touch lists?
- ⇒ Invite children to smell their bell peppers. How do they smell? Record children's descriptions on the section of the chart marked with a nose.
- ⇒ Remind children that bell peppers are not hot peppers. Invite children to taste their pepper pieces, and record children's descriptions of the taste and texture on the section of the chart marked with a mouth.



The FIRST bite

Helpful Hints:

- Many children associate the word “pepper” with unpleasantly hot/spicy tastes and foods. During this unit, try referring to our peppers as “sweet bell peppers” to help reduce children’s anxiety about tasting and eating this food.





Discovery Unit Sample: Berries

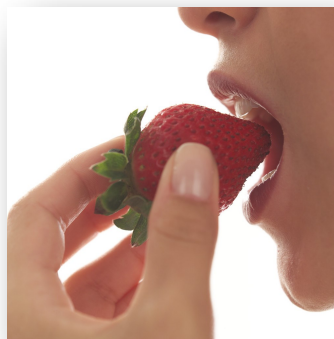
6.4 : Many Ways to Eat a Berry

10	15	20	30
----	----	----	----

Time needed

--	--	--	--

Challenge level



Prepare:

- You'll need at least two different forms of the same kind of berry. Possibilities include fresh, frozen, canned, dried, and freeze dried.
- Plan to make a chart with your students.

Share:

Examine each form of the berry. Use a T-chart and/or a Venn diagram to compare and contrast the two forms of the same berry. Encourage students to notice and describe size, color, and texture.

Do students predict that the two forms of the berry will taste the same? Or different? Taste and record responses.

fresh blueberries	dried blueberries
round	odd shape – kind of flat
sweet	sour
juicy	sticky
smooth on the outside	hard and rough on the outside

What other forms of fruit have students tried? Fruits can be picked when they are in season (usually summer and fall) and then frozen, canned, or dried to enjoy later, during the colder months of the year when fresh fruit no longer grows in our gardens.

Are there any other advantages of frozen, canned, or dried fruit?



Discovery Unit Sample: Berries

More To Do:

For kindergarteners, this activity pairs well with the book, *Blueberries for Sal*. This is a fun story to retell! If you have one available, try using a food dehydrator to make dried fruit of your own.

WISE Ideas:

Fresh fruits and vegetables are a very healthy choice, but they can also be canned, dried, frozen, and freeze dried. Preserving fruits and vegetables in this way can make them easier to transport and store. It can also help food last longer so that we can enjoy the fruits and vegetables during the cold weather months.

Preserved fruits and vegetables can be used in baked goods, cereal, smoothies, and other foods.

All forms of berries – including berries that have been dried, frozen, or freeze dried – are delicious and healthy snacks!

Curriculum Connections:

Arkansas Science Curriculum Framework

- *NS.1.K.3 Conduct scientific investigations as a class and in teams.*
- *LS.2.K.5 Name and describe the five senses.*
- *LS.2.K.6 Discuss the function of the five senses.*
- *ESS.8.K.6 Describe the four seasons.*
- *NS.1.1.1 Communicate observations orally, in writing, and in graphic organizers (T-charts, pictographs).*
- *NS.1.1.3 Conduct scientific investigations as a class and in teams.*
- *PS.5.1.1 Compare and contrast objects according to the single properties of size, color, shape, texture, magnetism.*
- *ESS.8.1.4 Identify the sequence of the seasons.*

Arkansas Social Studies Curriculum Framework

- *E.8.K.2 Identify the roles of producers and consumers.*
- *E.8.K.3 Discuss how people earn a living in the community and the places they work.*
- *G.3.1.3 Identify ways in which people depend on the physical environment.*
- *E.8.1.1 Recognize that people are producers of goods and services.*
- *E.8.1.2 Recognize that people are consumers of goods and services.*



Discovery Unit Sample: Carrots

The LAST bite...

As your Carrot unit comes to an end, plan one or more of the following closing activities:

- Make a class chart of “Things we’ve learned about carrots.” Pair with children’s drawings about their favorite experiences.
- If you have not done so already, add a paper carrot cut-out to the “Windy’s Foods” harvest basket on your classroom wall. Throughout the year, encourage children to spot carrots during lunch and snack and recall the unit.
- Select from exciting ideas in *À la carte* to extend the WISE lesson to reading, math, and science.





Discovery Unit Sample: Green Beans

Recommended Reading

Include these books during story times and make them available for independent use by children. If you have a classroom lending library, consider including green bean books there, too!

Beans by Gail Saunders-Smith, Pebble Books, 2000

From Seed to Plant by Gail Gibbons, Holiday House, 1993

Green as a Bean by Karla Kuskin

Growing Vegetable Soup by Lois Ehlert, Sandpiper, 1991

How Groundhog's Garden Grew by Lynne Cherry, Blue Sky Press, 2003

One Bean by Anne Rockwell, Walker Childrens, 1999

Up, Down, and Around by Katherine Ayres, Candlewick, 2008

Vera's Baby Sister by Vera Rosenberry, Henry Holt and Co., 2005

Water, Weed, and Wait by Edith Hope Fine and Angela Halpin, Tricycle Press, 2010



Transition Times: Songs, Poems, and Games

Ten Little Green Beans

Action rhyme to the tune of "Ten Little Indians"



Pantomime bending and picking green beans while singing:

One little, two little, three little green beans,
Four little, five little, six little green beans,
Seven little, eight little nine little green beans,
Ten green beans in my garden.

Repeat, pretending to stir a pot, ending with the line, "ten green beans on the stove top."

Repeat, pretending to eat, ending with the line,

"ten green beans in my tummy!"

Plant a Little Green Bean Seed

Sung to the tune of "I'm a Little Teapot"

*Plant a little green bean seed in the ground.
Out comes the warm sun, shining down,
Down come the rain drops, soft and slow,
Up come the green beans to grow, grow, grow!*



Discovery Unit Sample: Greens

Leaves We Can Eat

Sung to the tune of "Skip to My Lou"

*Leaves, leaves, leaves we can eat,
Leaves, leaves, leaves we can eat,
Leaves, leaves, leaves we can eat,
Leaves we can eat in the garden!*

*Spinach, lettuce, kale, and greens,
Spinach, lettuce, kale, and greens,
Spinach, lettuce, kale, and greens,
Leaves we can eat in the garden*



Greens in the Pot

Place a large, metal stock pot in the middle of the playing area.
Children can toss green bean bags into the pot.

Garden Leaves

To the tune of "London Bridge;" add actions for each verse.

*Lettuce leaves are growing up, growing up, growing up,
Lettuce leaves are growing up, in my garden!*

*Pick the leaves and pull them out, pull them out, pull them out,
Pick the leaves and pull them out, lettuce from my garden.*

*Take the leaves and wash them off, wash them off, wash them off.
Take the leaves and wash them off, ready for my salad!*

*Toss the salad and mix it up, mix it up, mix it up,
Toss the salad and mix it up, salad for my lunch time!*

Take the salad and eat it up, eat it up, eat it up,





Discovery Unit Sample: Greens

Extension Activities

These optional, small group activities may be used to extend children's learning about leafy greens.

Art:

- This unit is all about leaves we can eat, such as lettuce, collard greens, and spinach. Use garden catalogs and/or cooking magazines to search for other leaves you can eat, such as chard, turnip greens, cabbage, and kale. Cut and glue pictures to create a collaborative collage.
- Collect empty thread spools to use for print making. Peel any labels off of the flat ends of the spools and pair with green stamp pads or shallow trays of paint in various shades of green. Children can dip the spools in the ink/paint and stamp to make interesting designs that may remind them of round, layered heads of lettuce

Science and Math:

- Did you know that you can sprout romaine and leaf lettuce from the "stump" end of the plant? When you finish with a head of lettuce, save the end of the lettuce – the thick stem where the lettuce grew from the ground. Place "leaf side up" in a bowl with about an inch of water. Place in a sunny windowsill or other well-lit area, and change the water daily. Lettuce leaves will grow rapidly, creating the perfect opportunity for children to measure and record new growth every few days.

Science and Language:

- Gather two or more kinds of leaf lettuce, such as romaine, red leaf lettuce, green leaf lettuce, or butter/Boston lettuce. Children can use magnifying glasses to look closely as they compare and contrast the lettuces. How are they the same? How are they different? Older preschoolers and kindergarteners can make a Venn diagram to compare two varieties of lettuce.

Language/Literacy:

- During the sweet potatoes unit, children explored a book called *The Gigantic Sweet Potato* by Dianne De Las Casas. A very similar story, *Grandma Lena's Big Ol' Turnip* pairs well with the leafy greens unit. Both are adaptations of a classic folk tale. Read the two stories to compare: how are the characters and plot similar? How are they different? Children will enjoy acting out and retelling the two stories with props, masks, flannel pieces, or puppets.



Baby Spinach



Dear Class,

I'm Farmer Clark, and I have a vegetable farm in Fresno, California.

When the vegetables are ready to harvest, I pick them, pack them in boxes and baskets, and load them in my pick-up truck to take to the farmers' market in town.

The farmers' market is a place where people go to buy fresh, local fruits and vegetables. They walk around to look at all of the tables and booths, carefully picking out the fruits and vegetables that they want to take home to eat. You can find all sorts of fruits and vegetables at the farmers' market, but people come to my table when they want to buy healthy, delicious greens! "Greens" are what we call leaves that you can eat – lettuce for salads, tasty collard greens, fresh spinach, and more.

When a customer wants to buy greens from my table, they talk with me about the cost. If they decide that they want to buy some of my vegetables, they give me their money. I put their vegetables in a bag and give them back some change. I can use some of the money that I made selling greens to buy more equipment for my farm – tools, gas for my tractor, and even seeds for next year!

My favorite part of the farmers' market is visiting with all of the farmers and customers. I get to meet mothers, fathers, grandparents, kids, and even pets! All sorts of people come to the farmers' market! At the end of a busy day of meeting people and selling vegetables, I pack up my truck and drive back home to my farm. The farmers' market is over for the day, but I'll be back again next week!

I'd like to share some of my greens with your class, too. I'll pack a special box just for you. Be on the lookout for greens!

Your friend,

Farmer Clark

