



# The Book Planter



## Ag in the Classroom

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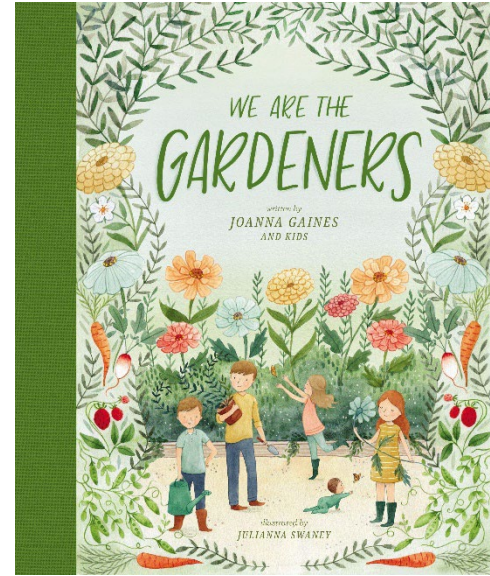
**August 2021: *We Are the Gardeners***  
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**Illustrated by: Julianna Swaney**

This is the story about a family and their adventures of starting their own family garden. From failed endeavors, obstacles (bunnies that eat everything!), and lessons learned, the Gaines family shares how they grew a happy, successful garden. As it turns out, trying something new is not always easy, but the hardest work often yields the greatest reward.

### Story Discussion Questions

After reading, have students answer the following questions about *We Are the Gardeners*, using evidence from the story to support their answers.

1. What killed the little fern plant? Where did the children learn about plant care so that it would not happen again?
2. What attitude did the family have when things did not work out the first time?
3. What did the family do when they decided to have an outdoor garden? Why is planning so important?



### Activity 1: Seasonal Gardening<sup>1</sup>

1. Ask the class what they know about the seasons of the year.
  - What are the four seasons?
  - How is the weather during each season in your region?
  - What foods do you eat in the four seasons?
2. Explain that the four seasons of the year affect our everyday lives, from the clothes we wear to the food we eat. Some fruits and vegetables can only be grown during certain seasons of the year while some can be grown all year long. This is why fruits and vegetables are grown in different places since the four seasons are different across the country. It's important to know what fruits and vegetables are in season:
  - Gardeners can plan what they'll plant according to the season, so they can have a good harvest.
  - Fruits and vegetables that are in season normally taste better and are more affordable.
3. Divide the students into groups and pass out the [What's in Season? – North Carolina Fruit and Vegetable Availability Chart](#) (full link in **Links** section). Discuss

what can be grown at different times of the year and allow students to share some of their favorite fruits and vegetables for each season.

4. Have students draw a fruit or vegetable from each season that they will share on a class poster. Display the poster in the classroom or in the hallway.
5. Have students play a matching game using the produce pictures and cards (see **Links**). Students will match the picture of the produce to the name. Students can also separate the matching cards by season.
6. Ask students to pull the matching cards that are not listed on the *What's in Season? – North Carolina Fruit and Vegetable Availability Chart*. Students will research these fruits and vegetables and determine which states (or countries) have the correct climate for producing them.

## Activity 2: Insect Cycles

Discussion Questions (use evidence from *We Are the Gardeners* to answer):

- What are three good pollinators that help in the garden?
- Why are aphids bad?
- Why are ladybugs helpful?
- Why are earthworms helpful?

Activity:<sup>1</sup>

1. Explain to students that many different insects live and grow in the garden, as shown in the book, *We Are the Gardeners*. Ask students to give other examples of insects they find outside or in the garden that are not mentioned in the book (examples: beetles, praying mantis, grasshoppers, moths, wasps, ants, etc.).
2. Explain that they will be learning about how butterflies and ladybugs change and grow during their lifetimes.
3. Show students a picture of a caterpillar and ask them to share what they know about it. Make a list of what they share. Repeat with a picture of a ladybug.
4. Hand out the *Life Cycle Charts* (see **Links** section) and project a copy on the board. As a group, label the steps of the cycles and discuss what happens at each stage. Explain that their growth goes in a circle, or cycle.
5. Explain that these insects have needs, just like we do. They need food, pollen, water, and a safe environment. Have students brainstorm what they need throughout life to grow healthy and strong (healthy food, water, exercise, sleep, a safe environment).
6. Tell students they get to go on a bug hunt to search for butterflies and ladybugs in each stage of their lifecycle. Give students magnifying glasses to explore the garden. If students find signs of the stages, they yell, "Bingo!" and can share their discovery with the class. Allow ample time for conversations about what they're observing.
7. Tie everything together with the following After-Activity Questions:

- a) What did we discover?
  - b) What stages of the lifecycle did we find?
  - c) Where did we find the insects?
  - d) Which insects did we see the most?
  - e) Which insects did we see the least?
  - f) How are the needs of insects similar to ours?
8. Extension: Expand the lesson to include different types of bugs and lifecycles (mealworms, crickets, ants, etc.)

### Activity 3: Shapes in the Garden<sup>1</sup>

1. Walk into the garden (or school grounds if your school does not have a garden space) and point out the items that have the characteristics of what students will be exploring on their hunt. Show students several examples.
2. Tell the students that they will be exploring the garden looking for data about shapes. Explain that data is information that you collect.
3. Allow students time to gather data and record it on their *Garden Shapes Worksheet* (see **Links** section).
4. When all students have finished, gather them in a central place to share their findings.
5. Ask the students, “How does data collecting help us learn things?” (*When we gather information and write it down, it helps us remember what we saw and we can share our information with others.*)

### Activity 4: Plants are Needy<sup>1</sup>

Preparation: Students should already have been introduced to the concept that plants need water, sunlight, and nutrients (abiotic factors). Some may be aware of factors that can impact healthiness, such as diabetes, obesity, high blood pressure, etc.

1. Gather students in a central spot and explain to them that there are things that can be “controlled” and “can not be controlled.” Use these examples:
  - a. Your stomach growls and you control it by eating.
  - b. You want to play soccer on the playground, but it’s night time (uncontrollable).
 Have students brainstorm more examples.
2. Ask students what things can be controlled when growing plants (water, adding compost, pruning, etc.). Then, ask what things can go wrong in the garden (pests, weather, sunlight, disease). Ask which of these things they saw in the book *We Are the Gardeners*.
3. Explain to students that like plants, controllable and uncontrollable factors affect our health. When we control these factors, our bodies can stay healthy and

strong. Give students a few examples of controllable and uncontrollable factors and ask them to come up with examples.

- a. Controllable factors: Eating a healthy diet that includes fruits and vegetables, children being physically active for at least 60 minutes every day, not smoking, etc.
  - b. Uncontrollable factors: Gender, age, family health history, genetics, etc.
4. Students are given different scenarios to read or act out, showing things that can happen in the garden. The rest of the class will decide if the scenario can be controlled or not controlled.
- a. A lot of water is around you.
  - b. Your sunshine is blocked by a taller plant.
  - c. You don't have any water and you're shriveling up.
  - d. Your roots are exposed out of the soil.
  - e. Aphids are all over you.
  - f. A leaf disease is attacking you.
  - g. Your growing space is too crowded.
  - h. Squirrels love to eat your fruit.
  - i. A basketball keeps landing on you when kids miss the basket.
  - j. You're too heavy at the top of the plant and your roots can't hold you up.
  - k. It's going to freeze overnight, and that means you could freeze and die.
  - l. Bunnies are nibbling on your leaves.
  - m. Squash bugs are on you.
  - n. Ladybugs are eating aphids off of you.
  - o. The sprinkler doesn't reach you when it waters.
  - p. It's getting hot in the summer and you don't thrive in the heat.
  - q. A tree limb falls on you and breaks your stem.
  - r. Hail crushed your stalk and you're broken near the soil.
5. After completing the scenarios, have students complete the *My Healthy Habits Checklist*. After one week, discuss the checklist with the students to see if they reached their goals and what changes they can make in the future. Younger students that cannot write can draw their healthy habits in the checklist.

Healthy Habit	How many times you did this in a week
Example: Try a new fruit.	X X X X

## Links

- *What's in Season? – North Carolina Fruit and Vegetable Availability Chart*  
<http://www.ncagr.gov/markets/availabilitychart.pdf>
- Matching Game (pictures and words)

[https://drive.google.com/drive/folders/1z\\_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing](https://drive.google.com/drive/folders/1z_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing)

- *Life Cycle Charts*

[https://drive.google.com/drive/folders/1z\\_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing](https://drive.google.com/drive/folders/1z_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing)

- *Garden Shapes Worksheet*

[https://drive.google.com/drive/folders/1z\\_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing](https://drive.google.com/drive/folders/1z_PQuxRlvAY-LltPpqP3pLMkqaSizmuQ?usp=sharing)

#### Sources

1. <https://www.wholekidsfoundation.org/assets/documents/school-garden-lesson-plans.pdf>

#### K-5 Subject Areas

Reading, Writing, Speaking and Listening, Health, and Science

#### NC Standard Course of Study

##### Reading

- **RL.K.1** With prompting and support, ask and answer questions about key details in a text.
- **RL.K.2** With prompting and support, retell familiar stories, including key details.
- **RL.K.3** With prompting and support, identify characters, settings, and major events in a story.
- **RI.K.1** With prompting and support, ask and answer questions about key details in a text.
- **RI.K.2** With prompting and support, identify the main topic and retell key details of a text.
- **RL.1.1** Ask and answer questions about key details in a text.
- **RL.1.2** Retell stories, including key details, and demonstrate understanding of their central message or lesson.
- **RI.1.1** Ask and answer questions about key details in a text.
- **RI.1.2** Identify the main topic and retell key details of a text.
- **RI.1.3** Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- **RI.1.4** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- **RL.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- **RI.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
- **RI.2.4** Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- **RI.2.6** Identify the author's main purpose of a text, including what the author wants to answer, explain, or describe.
- **RL.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **RL.3.6** Distinguish their own point of view from that of the narrator or those of the characters.
- **RL.3.7** Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story.
- **RI.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **RI.3.2** Determine the main idea of a text; recount the key details and explain how they support the main idea.
- **RL.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RL.4.3** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text.
- **RI.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.4.5** Describe the overall structure of events, ideas, concepts, or information in a text or part of a text.
- **RI.4.7** Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears.

- **RL.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.5.2** Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

### Writing

- **W.K.3** Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and with guidance and support, provide a reaction to what happened.
- **W.K.6** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.1.6** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.2.6** Recall information from experiences or gather information from provided sources to answer a question.
- **W.3.6** Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

### Speaking and Listening

- **SL.K.1** Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
- **SL.K.2** Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
- **SL.K.3** Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
- **SL.K.4** Speak audibly and express thoughts, feelings, and ideas clearly.
- **SL.1.1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- **SL.1.2** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- **SL.1.3** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- **SL.1.4** Produce complete sentences to describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
- **SL.2.1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
- **SL.2.2** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
- **SL.2.3** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
- **SL.2.4** Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent and complete sentences.
- **SL.3.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
- **SL.3.2** Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- **SL.3.3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
- **SL.3.4** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly in complete sentences at an understandable pace.
- **SL.4.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- **SL.4.4** Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; adjust speech as appropriate to formal and informal discourse.
- **SL.5.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.



- **SL.5.4** Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; adapt speech to a variety of contexts and tasks.

#### Health

- **K.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.
- **1.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.
- **2.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.
- **3.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.
- **4.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.
- **5.NPA.2** Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.

#### Science

- **K.E.1** Understand change and observable patterns of weather that occur from day to day and throughout the year.
- **1.E.2** Understand the physical properties of Earth materials that make them useful in different ways.
- **1.L.1** Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.
- **1.L.2** Summarize the needs of living organisms for energy and growth..
- **2.E.1** Understand patterns of weather and factors that affect weather.
- **3.L.2** Understand how plants survive in their environments.
- **4.L.2** Understand food and the benefits of vitamins, minerals and exercise.
- **5.E.1** Understand weather patterns and phenomena, making connections to the weather in a particular place and time.
- **5.L.2** Understand the interdependence of plants and animals with their ecosystem.







Pumpkin

Brussel  
Sprouts

Apple

Broccoli

Sweet Potato

Cauliflower

Lettuce

Orange

Pear

Kale

Spinach

Asparagus

Peas

Radish

Butternut  
Squash

Carrots

Fava Beans

Leeks

Melon

Tomato

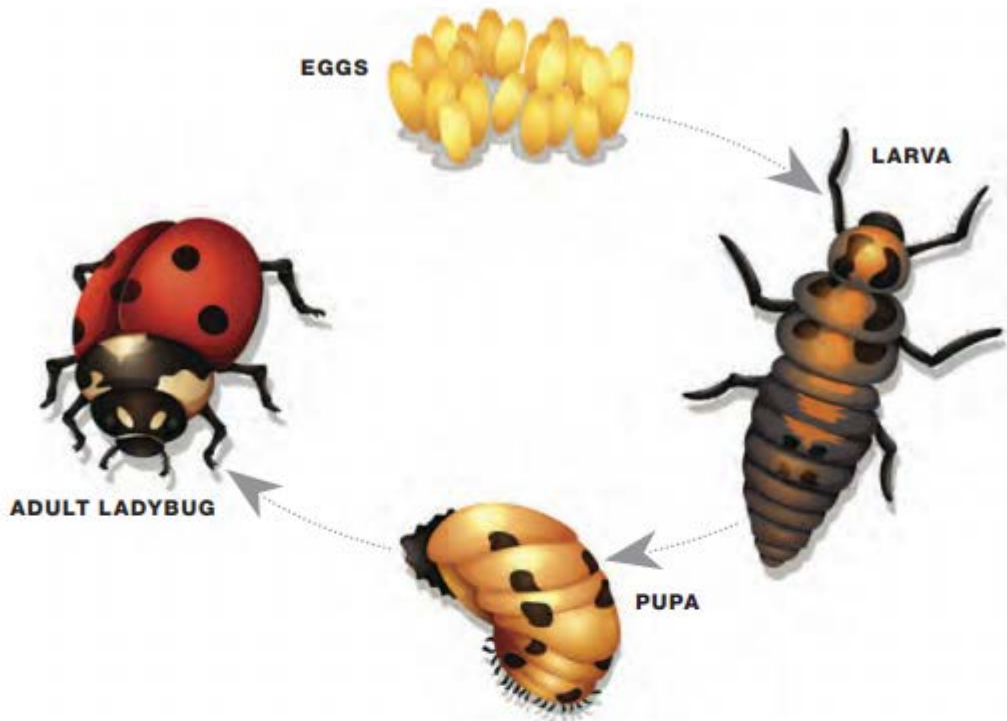
Summer  
Squash

Grapes

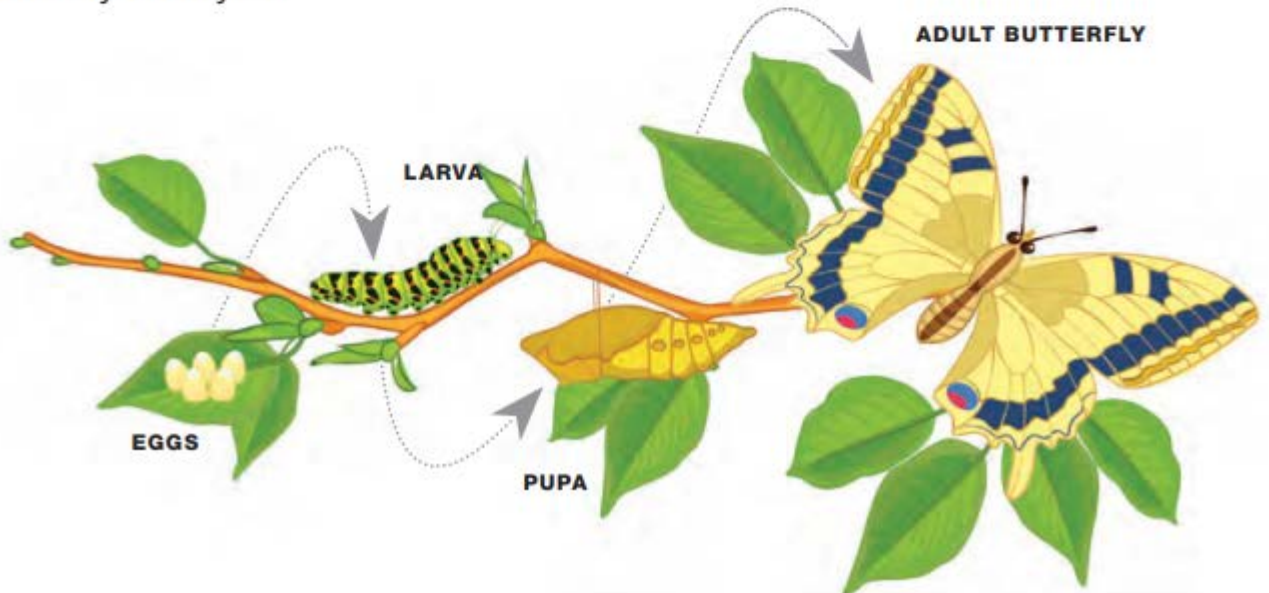
Corn

Cucumber

## Ladybug Lifecycle



## Butterfly Lifecycle



# Shapes in the Garden



Circle



Triangle



Rectangle



Square



Sphere



Cube



Cone



Cylinder