

Title of Book: **Alex's First Seed**

Level: **Grade 1/2/3**

Instructional Focus: How do worms help grow our food and how can we be helpful like a worm and help our community.

Before Reading

This book is about...

a little worm who helps grow his very first plant. This fun, educational book will help students to learn about the important role worms play in maintaining healthy soil to grow healthy food.

New Vocabulary to go over with students:

- **Manure:** Farmers use the word manure to mean a fertilizer made from animal waste. Manure is good for helping plants grow and stay healthy.
- **Organic Matter:** The remains of dead plants and animals that are decomposing and breaking down.
- **Castings:** Also known as vermicast, are a worm's manure in its natural form. The waste produced by worms as they eat compost, natural decaying debris in soil, and other organisms.
- **Harvest:** is when the farmer's crop is ripe and ready to be gathered and used for food.

Questions to begin conversation:

Ask students what they think about worms? Are worms a good thing or a bad thing? What do we think worms have to do with our food and growing our food? Look at only the cover of the book. Let us make some predictions and guess what the book is going to be about only by looking at the front page.

For the teacher or parents...

This reading guide is to help create conversation and allow students to explore the text and pictures of story more than simply reading the book. Feel free to add in any questions or skip questions as the conversation takes place. This resource was created to facilitate conversation, but every student is different and will analyze the story in a different way.

During Reading

For a class...

In groups of five have students take turns reading around in a circle. Use following prompts to help with guided

reading and ensure students can make predictions based on pictures and context of the reading.

At home...

If this is being read at home read along with your child or children. Make sure to take turns and encourage conversation about the book and what is going on. The more you can explore and guide questions the more your students will be able to get out of the guided reading.

Questions to ask students for Self-Monitoring: while you are going through the reading use these guiding questions for student self-monitoring and comprehension.

Questions:

- After reading the first page, do we remember what manure is? Why do you think farmers put manure on their fields before they plant crops?
- (Stop page 12) Worms eat all different types of organic matter so that they be strong and healthy. Can you think of different plants that a worm might eat? Can we get clue from the pictures in the book?
- (Stop page 22) Have you ever worked hard on something and been proud of what you have done? Think of a time YOU were like Alex and worked hard and it paid off. Would you be sad if someone said you had to get rid of the thing you worked so hard for?
- (Stop last page) Even though Alex thought that all his hard work was getting taken away he realized that he was helping to feed humans. Sometimes the best things we can do are for others and helping other people. Can we be like Alex and all worms and work hard to help other people because that is the way that the whole world can be fed and happy.

Major Teaching Points

Students will:

- Learn more about a worm's role in agriculture.
- Learn how hard work and patience can really pay off in the end.
- How can we help others like worms help us get our food?
- Make predications based on the pictures.

After Reading

Five Finger Re-Tell... (Can we remember the characters, setting and the beginning middle and end?)

1. **Characters:** Alex, Alex's mom, Nick and Mandy the farmers, Rachel, Jordan the ant.

2. **Setting:** Underground at Nick and Mandy's Farm.
3. **Beginning:** Alex was very excited to grow his own seed for the first time.
4. **Middle:** Alex was so proud of his beautiful carrot that he worked so hard to grow. Then Alex was very sad that he was getting his carrot harvested and taken away.
5. **End:** Jordan helped Alex realize that he was helping to feed other people so that they could be healthy. Alex realized it was more important and helpful to feed others, keep them healthy and help out his community, than to be selfish and keep the carrot for himself.



Final Conversation for Comprehension, Alex's First Seed: Discussion Questions...

1. Can you identify the season at the start of the book?

At the end of the book? In the beginning of the book, in the spring, farmers begin to prepare their field for planting. At the end of the book, in the fall, many crops are harvested from the fields and can be eaten, sold, or stored for the winter.

2. Do you remember what worms do to help the soil?

Worms help to increase the amount of water and air that gets into the soil. Worms do this by burrowing through the soil, which breaks it up and allows oxygen and water to reach the root systems of plants. Worms also break down 'organic matter', like manure and leaves and grass, into nutrients that plants can use. When worms eat, they leave behind castings, which is rich in nutrients and helps to fertilize plants.

3. How did farmers Nick and Mandy prepare their fields?

Mandy and Nick plow and add manure to their fields in the spring. Some farmers plow and add manure to their fields in the fall to get a head start on spring planting.

4. Why do the farmers plow their fields and add manure to their soil?

Farmers want to give seeds the best chance of sprouting and growing. Sometimes that means breaking the ground with a plow because soil can become dense and compact. Plowing can make it easier to plant and break up the blocky structure of the soil which can help in drainage and root growth. Plowing can also break up weed roots and prevent weeds from growing. Many farmers spread manure, also called 'organic matter', from cattle and swine onto their fields. This manure is rich in nutrients, which plants need to grow. Plowing the soil mixes the manure and increases oxygen in the soil which speeds up the manure's decomposition and makes more oxygen available for the plant roots. Worms like Alex also help with decomposition as they feed on organic matter that helps restore nutrients to the soil.

5. Do all farmers plow their fields? Why or why not?

Farming is full of decisions! There are many reasons for farmers to plow their fields, but plowing does come with some challenges, and not all farmers choose to plow their fields. One of the main problems with plowing fields is that when bare soil is turned, wind or water more easily carry soil away from the field. This is known as water or wind soil erosion. For this reason, many farmers chose to plant without plowing their fields, using “no-till” technology. Seeds are drilled directly into soil without plowing and last year’s plant stems or leaves are left on the surface of the field. As we learned in the book, insects, and worms like Alex, as well as bacteria and fungus, all live in the soil and create a unique environment that contribute to the health of the soil. Plowing can sometimes disturb the insects and worms in the soil. In the end, the farmer must decide what is best for their fields, their crops, and the environment.

6. What does it mean to ‘tend’ a seed like Alex does? What do plants need to grow healthy and strong?

Tending a seed means caring for it, and ensuring it has what it needs to survive. Good gardeners, like good farmers, know that we do not make the seeds grow. We do not glue on the leaves or attach the roots or paint the petals. Plants grow themselves! However, good farmers and gardeners help to create the best environment to encourage seeds to grow and help provide what seeds need to grow healthy and strong. Seeds need a good place to sprout, water, air and nutrients.

7. What other insects or animals can help plants to grow, like worms do?

There are lots of insects that help plants grow. Think of bees and butterflies, that help to pollinate plants. Beetles and many other insects who live in the soil, like Alex, work to break down organic matter like leaves and manure and restore nutrients to the soil. There are also lots of insects, like ladybugs, who help by eating insects harmful to crops, like aphids. Sometimes, the most well-known insects are those that cause disease or compete for our food crops, but these insects are only a small fraction of the world’s insect population. Most insects are beneficial to humans and the environment. Without insects, the environment could not function as it does!

Journal Prompts:

- If you could tend a seed like Alex, what seed would you choose? Why?
- You have been hired as the chef of the Compost Café. What other menu items would you include? Draw your specials of the day.
- Imagine a world without farms. What are 3 foods that you miss? Draw them! Consider: would you be able to raise or grow any of these foods yourself? Why or why not?