

## Vegetable Science (Grades 3-5)

**Focus Lesson:** Lifespan of vegetables

**Materials:**

*Strega Nona's Harvest* by Tomie dePaola  
 Student choice vegetables: i.e. squash, peppers, carrots, tomatoes  
 Observation journals  
 Computers

**Time:** Over a series of days/weeks

**\*Common Core Standards:**  
**CCSS.ELA-LITERACY.W.4.2**

Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

**NYSS: 1.6.3.** Students share their findings with others and actively seek their interpretations and ideas.

**NYSS: 2.3.2.** Students demonstrate ability to evaluate information critically.

**Thinking Skill:** Students will use observation and research in order to answer scientific questions

**Objective:**

Students will observe a number of vegetables in order to analyze how and when they ripen and deteriorate.  
 Students will compare and contrast the lifespans of different vegetables.  
 Students will use research in order to answer scientific questions.

**Connection:**

Students will use both literature and scientific methods in order to answer questions about how, when and why vegetables ripen and then deteriorate.

**Explicit Instruction:**

Read *Strega Nona's Harvest* by Tomie dePaola.

Because of Big Anthony, Strega Nona's harvest was too big/bountiful, so she decided to give her vegetables to the village. But I have a question: Why wouldn't Strega Nona just save her vegetables for herself and her family so she could have them over the long winter (encourage lots of answers)?

That's right. She couldn't save her vegetables because vegetables eventually go bad. They rot. Why do you think that happens? They deteriorate. What causes vegetables to deteriorate after they ripen?

Which vegetables do you think may rot quickly? Explain why.  
 Which deteriorate more slowly? Why?

Let's find out!

**Guided Practice:**

Hand out student observation journals and explain that throughout the next few days, they will be observing different vegetables, like the ones in Strega Nona and Anthony's garden. They will be watching and analyzing them to find out why they deteriorate, how long it takes, and how each vegetable changes.

Let's pick the vegetables we want to learn about! Make a class list of the vegetables the students want to analyze: approximately 5-10. Have students write the list in their observation journals. There should be a range of colors, textures, and sizes, as well as vegetables that grow above and below the ground.

Have students designate 5 pages to each vegetable.

The next day bring in the range of fresh vegetables. Include one of each type: root vegetables, pods, leaves, and stems.

**Independent Practice:**

For two weeks give students 10-15 minutes once a day to observe each vegetable. Encourage students to write thorough and detailed observations. They should also include sketches to show how each of the vegetables change. Date each entry. Write down how the shapes and colors change. Determine which are decaying the fastest and the slowest. Encourage students to write down on each date which vegetable has been decaying the fastest, which the slowest.

At the end of the two weeks, have students each choose a vegetable they were most interested in observing. Students will then research why and how their specific vegetable deteriorated. Discuss the role of ethylene gas, a natural plant hormone, in the ripening process.

Students will complete their project by writing a paragraph that draws information from both their observation journals and information from their research to explain the characteristics of and speed of decay for their specific vegetable. Students should compare rates of decay with other vegetables.

**Reflection – Group Share:**

Students will hand in observation journals and research paragraphs.

Students you have been observant scientists for the past two weeks. Scientists use observation and research to learn! Let's talk about the vegetables. Which vegetables deteriorated first? Who can tell us about that vegetable? Which ones deteriorated the slowest? Why do you think some vegetables deteriorate quicker than others? Did Strega Nona make the right decision in giving her vegetables to the village rather than saving them all for herself?

**Reading list:**

*Strega Nona's Harvest* by: Tomie dePaola

**Teacher's Notes:**