



MYSTERY #1

COULD IT BE CORN?

High School Teacher Guide



This teacher guide is broken into different sections with suggestions of how to use the reader in the classroom and provides ideas on how to extend the learning for your students. A PDF version of this teacher guide with active links can be found at kansascornstem.com under Mystery Corn Reader.

Reader QR Code Links:

If your students are unable to use QR codes in the classroom here are the links to share the videos in alternative ways.

- Many Uses of Corn: bit.ly/3dcmEV3
- RFA Ethanol Process provided by Renewable Fuels Association: <https://bit.ly/3p60SVX>
- Ethanol in the Classroom provided by Renewable Fuels Association: bit.ly/3dkc8es
- Plastic Made by Corn: <https://bit.ly/3PfvRt2>

Vocabulary Words

There are seven vocabulary words to be found throughout the reader. They are bolded with a small explanation to help define the word. Other ways to learn more about these are:

- Have your students find the definitions to the words on their own before reading.
- Draw pictures of the words which will help them make meaningful connections.

Inside

Page two highlights the uses of corn and how different parts of the kernel are used for different products. Using the information on the page, create a visual that can be used for the classroom by doing the following:

- Display a photo of an ear of sweet corn and an ear of dent corn.
- By each ear of corn, identify items made from each of the two different types of corn. This really helps students because they often think sweet corn is the type of corn used for most corn products when in actual fact, most products are made from dent corn.

"The Many Uses of Corn" poster found via the QR code can be projected on a screen for the entire classroom to see. You can use the corn comprehension questions as an assignment or to spark discussion.

Page three focuses on ethanol, from how it is produced to the possible careers it has to offer. The Renewable Fuels Association provides a virtual road trip, an activity sheet to go over the different aspects of ethanol. The activity sheet can be found at <https://kscom.com/reader/>. Students can also complete research on careers in ethanol using the site agcareers.com

Find more fun and interactive
resources at kansascornstem.com



Back Cover

On page four, the Corn Science Investigation preps students for a hands-on activity that allows for discussion about renewable and nonrenewable resources. This activity will give students the opportunity to talk about human activity, the impact and take the investigation further learning about ocean pollution of petroleum-based plastics. Students can also create a C.E.R. claim for how corn plastics may be more beneficial to our environment.

Hands-On Activity Options

- Students can create utensils using the following lab: <https://bit.ly/3QzOSrb>. You can print copies or digitally assign. At the completion of their designs and test, feel free to have students create a product presentation to present their findings to the class.
- Students can create their own corn plastic using Kansas Corn STEM's Corn Plastics lab. This lab features additional ways to create corn plastics. <https://bit.ly/3p9WncQ>
- Newsela offers an excellent article on nonrenewable resources, including a writing prompt and 4-question quiz. Corn plastics is featured as an alternative to petroleum-based plastics. <https://bit.ly/3QwpfaX>

Additional guide extensions comparing bio and petroleum based plastic with an engineering and design component

- Oregon State University Bioenergy Education Initiative- Fantastic Bioplastic: <https://bit.ly/3AotYq5>
- STEM Learning - Plastic Challenge: <https://bit.ly/3AcMvoW>

Additional Kansas Corn STEM Resources

This reader can be used as a stand-alone activity, or you can pair it with other Kansas Corn STEM offerings.

- **Breakout Box Challenge** - Challenge your students to learn more about corn using a breakout box. "Kernel Kode" would go well with this reader. It is available online or for physical breakout boxes. Check out the lesson and others at <https://kscorn.com/topic/breakout-box/>
- **Guest Speaker** - Request a guest speaker to visit the classroom and expand learning about ethanol and corn. <https://kscorn.com/guestspeaker/>
- **Lessons** -Other middle school labs can be found in the lesson library. Check out the TEACH-FLEX lessons that use easy to find classroom materials to complete a lab. <https://kscorn.com/lesson-library/>
- **Workshop** - Seed to STEM is a 2-day workshop where teachers learn 10 labs, attend a farm dinner and ethanol plant and receive \$500 in supplies to use in their classroom. To learn more about the workshop go to - <https://kscorn.com/middle-school-science-teacher-professional-development/#AboutSeedtoSTEMWorkshops>