



KANSAS CORN STEM

Reader QR Code Links

- Difference between Soil and Dirt- <https://agreenhand.com/difference-between-soil-and-dirt/>
- Copy of Jamboard- bit.ly/3Vx4Oxo
- Introduction to Soil Part 1 by Science Basement- <https://youtu.be/p166fVxwyuY>
- Ag Explorer - <https://agexplorer.ffa.org/search/node/soil>
- How is Soil Created?- bit.ly/3Be8XOR

There are eight 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 words 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.
- Have them create online or physical flashcards, graffiti posters or a PowerPoint presentation to help them understand the meaning of the words.

Focusing on the differences between soil and dirt, students will have the opportunity to read more about both and complete a Jamboard as their first activity.

- If students do not have access to a computer, you can have them make a simple T-chart on paper and write the information in the correct column.
- If you have never used Jamboard, it is a collaborative slide for students to add post-its/comments on. You can duplicate it to make copies for every class or just make one for students to share their findings.
- Using the QR Code link will automatically make each student their own copy when they click on it.

The provided worksheet can be used to assess students' learning from the "Introduction to Soil Part 1" video. You can provide the worksheet before the video and have students complete as they watch or provide afterwards as an assessment of what they learned.

Find more fun and interactive
resources at kansascornstem.com

The logo for Kansas Corn STEM features the words "KANSAS CORN" in green, with a stylized yellow corn kernel icon replacing the letter "O" in "CORN". Below this, the word "STEM" is written in large, bold, white capital letters. To the right of the text is a green silhouette of a corn plant with three leaves.

True or False

After listening to the videos and reading the material, the student should be able to answer the True or False questions. They are all true, but if you have students do additional research, they may argue that the second question is false as they will find some claims that it could take 100 years to create topsoil. Opinions vary and it is largely dependent on the environment in which the soil is being created. Based on United States Department of Agriculture (USDA) information, the minimum number of years on average is 500 years.

Corn Careers

This section allows students to explore soil science careers. Students will be able to research more careers related to working in soil science.

- You can have students discuss what careers they research, write a summary of their findings, or do a group share of what careers they learned about that they had not heard of before.

Corn Science Investigation

This Soil Science Investigation is a great time to continue discussing with students the materials that make up soil, how soil is different from dirt, and the importance of a healthy soil for plant growth.

- The four-ounce containers can be purchased on Amazon. You can get a pack of 100, including lids, for about \$20. The additional small materials added to the slime soil model will represent microbes, minerals, nutrients, inorganic, and other various mediums found in soil.
- There are also several other mini lab extensions that can be done using the compiled list from NRCS Soil Scientist, Kim Vinson. The majority of these activities require minimal, easy to access materials. They've been included as an additional teacher resource page.
- If you have the ability to download software to student computer, STEAMpowered.com has an educational game called "Secrets of Soil" that can be played for free after it is downloaded and a free account is made. The link to app for the STEAMpowered soil game can be found here: https://store.steampowered.com/app/1610820/Secrets_Of_Soil/

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.

- **Lessons** - Soil Sleuths and Soil Erosion lessons. You can find the lesson guide and training videos here <https://kscorn.com/topic/soil/>
- **Breakout Box Challenge** - Challenge your students to learn more about soil using a breakout box. *Spread It. Grow It. Know It. and Sifting Through Soil* would go well with this reader. It is available online or for physical breakout boxes. Check out the lessons and others at <https://kscorn.com/topic/breakout-box/>
- **Guest Speaker** - Request a guest speaker to visit the classroom and expand learning about soil 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/>
- **Seed to STEM Workshop** - Seed to STEM is a 2-day workshop where teachers learn 10 labs, attend a farm dinner and ethanol plant tour 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>