



# SOIL CEREAL STACK

## Grade Level

K-8

## Length of Lesson

45 minutes

## Objective

By the end of this lesson, students will be able to describe the layers of a soil profile and the properties of each layer.

## Materials

- Student Worksheets (1 for each student)
- Clear plastic cups
- Golden Oreos
- Kix cereal
- Rice Krispies cereal
- Cocoa Krispies cereal
- Raisin Bran cereal
- Spoons
- Milk (optional)

## Standards

### Common Core

CCSS.ELA Literacy.RI.4.3;  
RI.5.2, RI.6.2

### NGSS

K-ESS2-2, K-ESS3-1, 2-LS4-1, 3-LS4-3, 4-ESS2-1, 5-LS2-1, MS-LS2-1, MS-LS2-5

## Lesson Summary

This edible soil profile lesson is designed to help students understand the layers of soil underground and the properties of each layer.

## Suggested Sequence of Events:

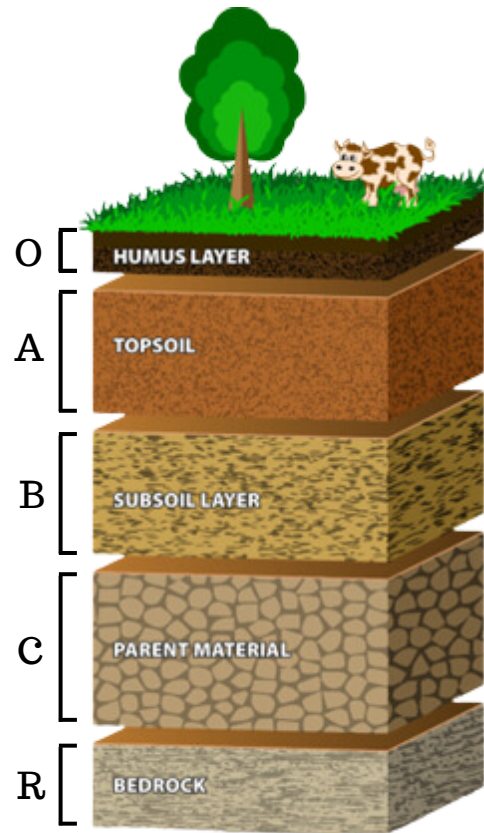
1. Set Up: Collect each of the materials listed on the left.
2. Read books from our Scoop on Soil Recommended Reading list to capture student interest.
3. Read through the [IAITC Soil Ag Mag](#) to learn more about soil! Interactive online versions can be found on our website.
4. Complete the activity following the procedures:
  - Pass out a clear plastic cup to each student. Layer the cereals in the following order to represent a soil horizon, and have students complete the Student Worksheet as they complete the activity.
  - At the bottom of the cup, place one whole Golden Oreo.
    - This represents the R Horizon (Bedrock). The Oreo remains whole because the R Horizon is solid, unweathered rock.
  - Next, place about 2-3 tablespoons of the Kix cereal.
    - This represents the C Horizon (Parent Material). The C horizon is made of weathered (broken down) bedrock. The Kix cereal is the same color as the Golden Oreo for this reason.
  - Next, add 1-2 tablespoons of Rice Krispies.
    - This represents the B Horizon (Subsoil). The Subsoil is usually similar in composition to the Topsoil but is lighter in color.
  - Next, add 1-2 tablespoons of Cocoa Krispies.
    - This represents the A Horizon (Topsoil). The Topsoil is the darkest layer of the soil profile because it is the richest in nutrients.
  - Sprinkle a little of the Raisin Bran on top.
    - This represents the O Horizon (Organic Material). The Raisin Brain has many different textures and colors to represent this layer.
  - Now you may enjoy your Soil Cereal Stack, with or without milk!
5. Whole class discussion and reflection of activity.

# TEACHER RESOURCES

## Completed Soil Cereal Stack



## Soil Profile



## Extension Ideas

- As you pour the milk into the Soil Cereal Stack, watch as the milk flows through the cracks to the bottom of the cup. This is called percolation. Percolation occurs when water fills the spaces between the soil particles. Discuss with students.
- Brainstorm ideas of different kinds of cereals or different kinds of snack foods the students could use to represent the layers (horizons) in the soil profile. If you have the resources, allow students to try out their creations!
- Contact your local FFA Chapter and ask them when they will be preparing for the Land Use Career Development Event (contest). In this contest, they will be visiting big holes dug in the ground to view actual soil horizons. See about partnering with them one day and visiting the soil pit!
- Learn about different soils around the state and country and how soil horizons differ based on geography.
- Complete more [IAITC Soil Lessons](#) to learn more about soil!
- Go to [aginthe classroom.org](http://aginthe classroom.org) to contact your County Ag Literacy Coordinator for free classroom sets of our Ag Mags!



Science

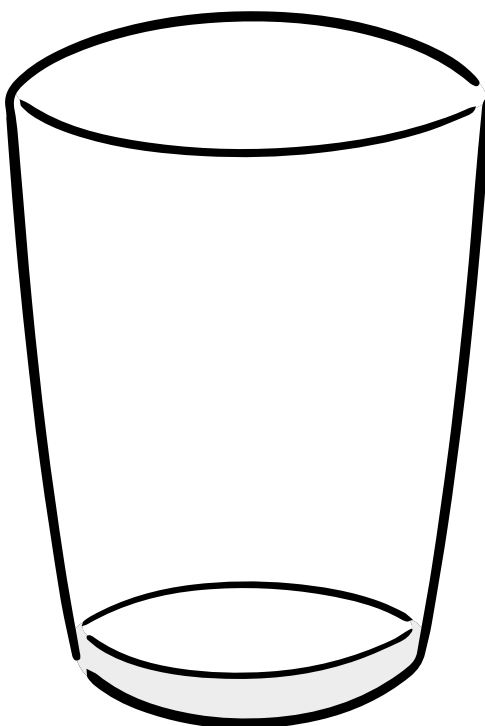
# SOIL CEREAL STACK

## STUDENT WORKSHEET

Draw your Soil Cereal Stack in the cup below. Label the ingredients in the space to the left of the cup, and label which soil horizon each ingredient represents in the space to the right of the cup.

Cereal  
Ingredient:

Soil  
Horizon:



In the table below, describe why each ingredient represents each soil horizon.

Ingredient	Soil Horizon	Explain Why

**The following pages include signs that may be printed, folded, and displayed if you would like to set up this activity as a self-guided station.**





# SOIL CEREAL STACK



**1.**

Place one Golden Oreo into the bottom of the cup.

The **GOLDEN OREO** represents the **R HORIZON: BEDROCK** because Bedrock is a solid, undisturbed mass and the Oreo is solid, not crushed.



## SOIL CEREAL STACK



**2.**

Place one heaping Tablespoon of Kix into the cup.

The **KIX** represents the **C HORIZON (PARENT MATERIAL)** because the C Horizon is made of slightly weathered Bedrock and the Kix are the same color as the Oreo.



## SOIL CEREAL STACK



**3.**

Place one heaping Tablespoon of Rice Krispies into the cup.

The **RICE KRISPIES** represents the **B HORIZON (SUBSOIL)** because the Subsoil is lighter in color than the Topsoil and the Rice Krispies are lighter in color than Cocoa Krispies.



## SOIL CEREAL STACK



4.

Place one heaping Tablespoon of Cocoa Krispies into the cup.

The **COCOA KRISPIES** represents the **A HORIZON (TOPSOIL)** because the Topsoil is dark in color due to nutrients and the Cocoa Krispies are the dark and finely ground.



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5.

Place one heaping Tablespoon of Raisin Bran into the cup.

The **RAISIN BRAN** represents the **O HORIZON (ORGANIC MATTER)** because the O Horizon is made up of different types of debris and the Raisin Brain has many components.



# SOIL CEREAL STACK



**6.**

**ENJOY!**

Grab a spoon and enjoy with or without milk!