

# EAT YOUR LAYERS!



**LEVEL: K-5TH**

**ADAPTED FROM A LESSON ON  
LEARNING RESOURCES BLOG**

<http://blog.learningresources.com/diy-earth-day-edible-soil-layers/>

## STANDARDS:

S3E1. OBTAIN, EVALUATE, AND COMMUNICATE INFORMATION ABOUT THE PHYSICAL ATTRIBUTES OF ROCKS AND SOILS.

## OBJECTIVES:

- STUDENTS WILL LEARN TO LABEL SOIL LAYERS
- STUDENTS WILL LEARN WHAT MAKES UP EACH SOIL LAYER

## SUBJECT MATTER:

- ENVIRONMENTAL SCIENCE
- SOIL RESOURCES
- GEOLOGY

## SUMMARY OF TASKS/ACTION:

- STEP 1: GATHER AND PREP ALL MATERIALS
- STEP 2: READ THROUGH LESSON AND DISCUSS HOW SOIL IS MADE OF LAYERS WITH YOUR STUDENTS- FOLLOW THE DISCUSSION SECTION OF THE LESSON PLAN
- STEP 3: LET'S MAKE SOIL WE CAN EAT! FOLLOW THE STEPS TO CREATE EDIBLE SOIL LAYERS WITH YOUR STUDENTS.
- STEP 4: CHALLENGE YOUR STUDENT TO NAME ALL OF THE LAYERS BEFORE THEY DIG IN TO THEIR TREAT.
- STEP 5: REVIEW AND DISCUSS THE IMPORTANCE OF SOIL LAYERS.

## MATERIALS:

- CLEAR CUP OR GLASS FOR VIEWING THE LAYERS
- CHOCOLATE PUDDING OR ALTERNATIVE
- VARIOUS MATERIALS FOR THE LAYERS: CRUSHED COOKIES, SPRINKLES, CHOCOLATE CHIPS OR CHUNKS, PEANUT BUTTER, CHOCOLATE SYRUP, CARAMEL SAUCE, ETC. GET CREATIVE!

## REFERENCES:

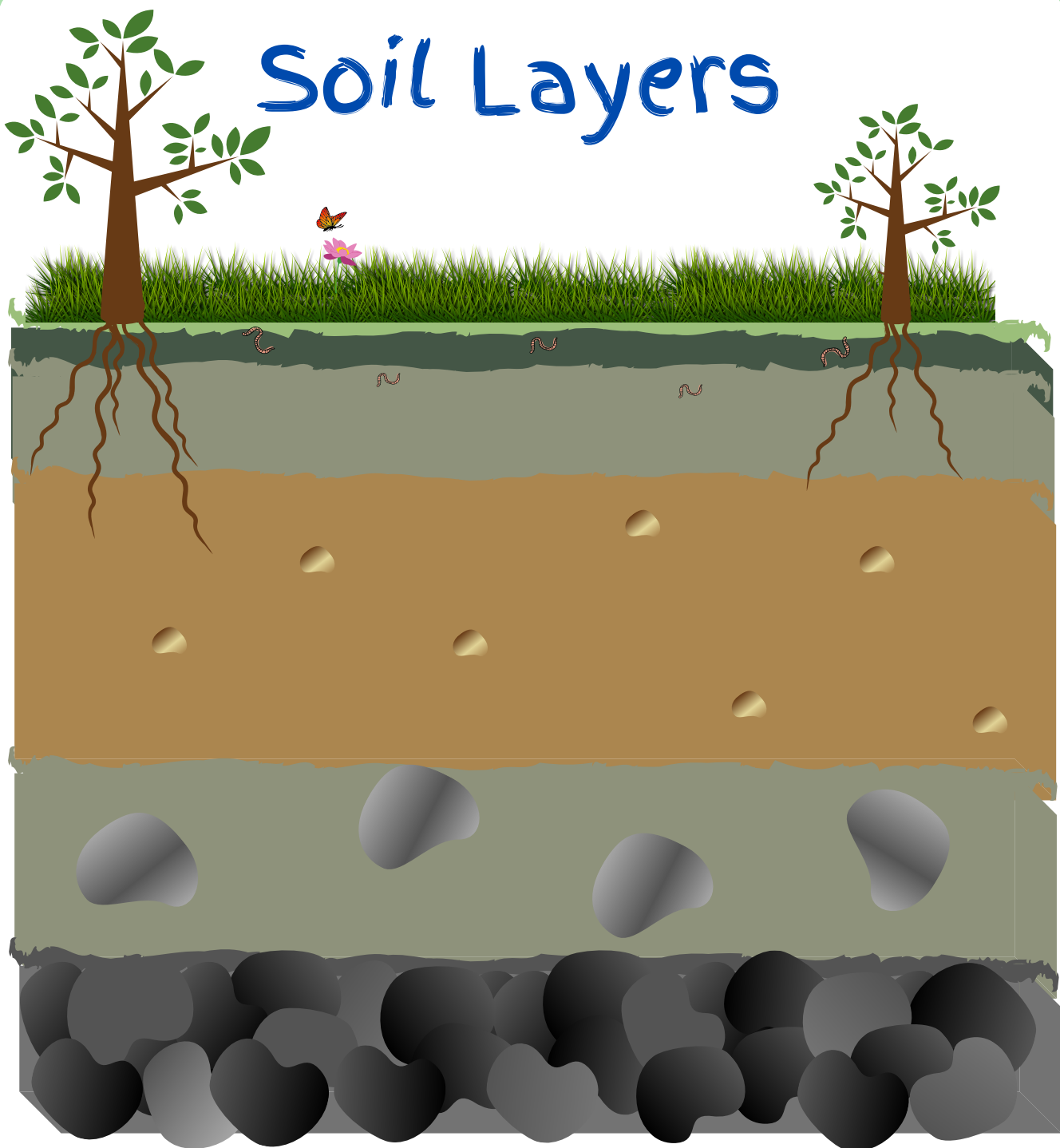
- [HTTPS://WWW.SOILS4TEACHERS.ORG/LESSONS-AND-ACTIVITIES](https://www.soils4teachers.org/lessons-and-activities)
- [HTTPS://WWW.SHEFFIELD.AC.UK/SSA/SOIL-FACTS/HORIZONS](https://www.sheffield.ac.uk/ssa/soil-facts/horizons)

## FOLLOW UP:

- CAN YOU OBSERVE SOME SOIL LAYERS IN YOUR VERY OWN YARD? SEE WHAT YOU CAN FIND!

## INTRODUCTION:

- DO YOU KNOW THAT SOIL IS MADE UP OF LAYERS LIKE A CAKE? EACH LAYER IS STACKED ON TOP OF EACH OTHER AND EACH ONE IS MADE UP OF DIFFERENT MATERIALS. THE SOIL THAT WE SEE WHEN WE LOOK OUTSIDE IS USUALLY JUST THE VERY TOP LAYER AND IT IS THE SMALLEST LAYER! THERE ARE MUCH BIGGER LAYERS DEEP BENEATH THE EARTH.
- OBSERVE THE SOIL LAYER SHEET BELOW. POINT OUT EACH INDIVIDUAL LAYER AND HOW THEY LOOK DIFFERENT FROM EACH OTHER. DO YOU SEE DIFFERENCES BETWEEN THE LAYERS? WHAT IS DIFFERENT? WHICH ONES ARE BIG OR SMALL? DO YOU SEE ROCKS? WHAT ABOUT LIVING THINGS?





## MATERIAL PREP:

- GATHER YOUR MATERIALS FOR CREATING YOUR SOIL LAYERS. USE WHATEVER YOU HAVE AVAILABLE. THE FOLLOWING ARE EXAMPLES:
- BEDROCK: SOLID CHOCOLATE BAR OR ANYTHING HARD AND SOLID
- C HORIZON OR PARENT MATERIAL: CRUMBLLED COOKIES IN LARGE CHUNKS, CHOCOLATE CHIPS/CHUNKS OR ANYTHING WITH STILL LARGE PIECES
- B HORIZON OR SUBSOIL: PUDDING OR OTHER IDEAS, PEANUT BUTTER, CHOCOLATE CREAM, OR ANYTHING SOMEWHAT SMOOTH AND THICK
- A HORIZON OR TOP SOIL: FINELY CRUSHED COOKIES OR ANYTHING WITH SMALL GRAIN TEXTURE
- O HORIZON OR HUMUS: GREEN SPRINKLES, SHREDDED COCONUT, EDIBLE SUGAR DECORATIONS, GUMMIES TO REPRESENT LIVE ORGANISMS

## ACTIVITY:

NOW THAT YOU HAVE OVERVIEWED THE SOIL LAYERS, WORK WITH YOUR STUDENT TO GATHER EDIBLE ITEMS THAT WILL REPRESENT EACH LAYER. REFER TO THE MATERIAL PREP ABOVE FOR IDEAS. DISCUSS EACH LAYER AS YOU ADD IT!

- FIRST ADD THE BEDROCK LAYER TO THE BOTTOM OF YOUR CUP. THE BEDROCK LAYER IS THE DEEPEST LAYER OF SOIL. IT IS HARD AND MADE UP OF ROCK TIGHTLY COMPACTED TOGETHER.
- NEXT ADD THE C HORIZON OR PARENT MATERIAL LAYER. THIS LAYER RIGHT ABOVE THE BEDROCK LAYER IS WHAT MAKES THE B AND A HORIZONS THEREFORE IT IS CALLED THE "PARENT MATERIAL." IT HAS LOTS OF LARGE ROCKS FROM THE BEDROCK LAYER BUT IT ALSO IS LESS COMPACT.
- ADD THE B HORIZON. THE B HORIZON IS ALSO CALLED SUBSOIL. SUBSOIL HAS MINERALS AND LOTS OF CLAY WHICH IS A REDDISH BROWN COLORED SOIL. SOME ROOTS FROM LARGE TREES AND PLANTS CAN REACH DOWN INTO THE SUBSOIL LAYER. **\*\*IF YOU ARE IN GEORGIA: THIS IS WHAT OUR SOIL MAINLY CONSISTS OF AND YOU CAN EASILY VIEW IT IN YOUR OWN YARD! OUR TOP SOIL AND O HORIZON WERE STRIPPED AWAY IN MANY AREAS.**
- ADD THE A HORIZON. THE A HORIZON IS ALSO CALLED TOP SOIL. TOP SOIL IS RICH WITH MINERALS AND SUPPORTS LIVING ORGANISMS.
- LASTLY ADD THE O HORIZON OR HUMUS. THE O HORIZON IS MADE UP OF ORGANIC MATTER FROM DECOMPOSING PLANTS AND ORGANISMS. IT IS RICH WITH NUTRIENTS AND WILL SEND SOME DOWN INTO THE BELOW LAYERS WHEN IT RAINS.
- ADD ANY "LIVING" ORGANISMS THAT YOU WANT ON TOP!

BEFORE YOU DIG IN TO YOUR TASTY SOIL, CHALLENGE YOUR STUDENT TO NAME THE SOIL LAYERS START TO FINISH!

## EXTRA:

THE [GEORGIA ASSOCIATION OF CONSERVATION DISTRICTS \(GACD\)](http://www.gacd.us) PARTNERS WITH LOCAL SOIL AND WATER CONSERVATION DISTRICTS TO PROVIDE EDUCATION ON KEEPING OUR SOIL CLEAN AND HEALTHY.

FOR MORE INFORMATION ON GACD AND TO FIND YOUR GEORGIA CONSERVATION DISTRICT PLEASE VISIT: [WWW.GACD.US](http://www.gacd.us)  
FOR MORE LESSON PLANS VISIT: [WWW.GACD.US/LESSONPLANS](http://www.gacd.us/lessonplans)