

Minerals Matter

What color is soil? It's not all just brown. Look closely and you will see some different colors. The color of the soil depends on what it's made of. Soil with lots of organic matter usually looks brown or black. Other colors like yellow, red, or white come from the mineral matter component of the soil.

Black/Dark Brown

Soil that has high organic matter content and nutrients for plants.

Yellow or Gold

Soil from certain sandstones.

Light Brown

Clay soils with low organic matter content. Soils formed mainly in materials left from ancient sea beds.

Red

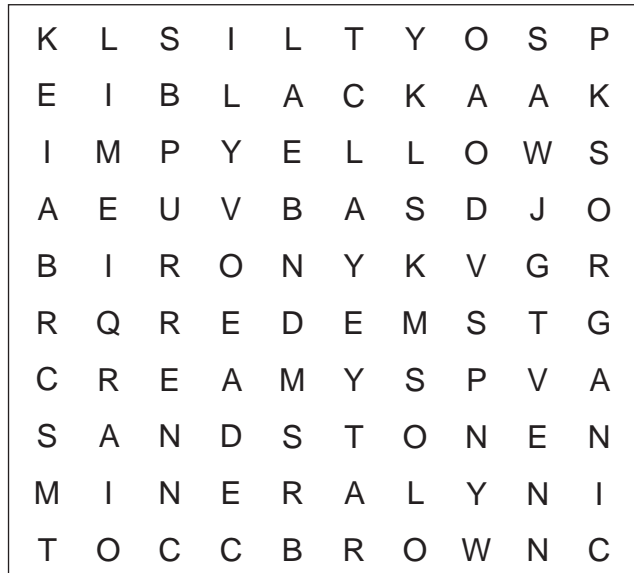
Soil with high iron content.

White or Cream

Soil with high amounts of lime or formed in wind-blown silty material.

All these words have something to do with soil color. Find and circle them in the word puzzle.

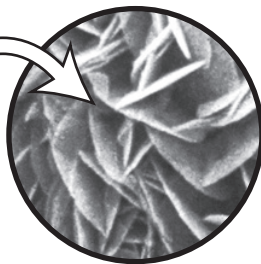
MINERAL
BLACK
ORGANIC
YELLOW
SANDSTONE
BROWN
CLAY
RED
IRON
CREAM
LIME
SILTY



Under the Microscope

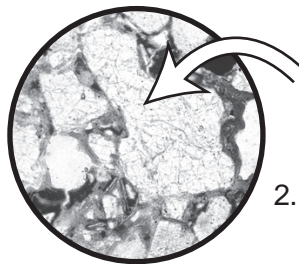
These soil photos were taken through a microscope. What color do you think each soil might be? Write the color next to the photo.

When iron crystalizes in soils, it can look like this under the microscope.



1. _____

Under a microscope, sand grains look as big as gravel stones.



2. _____

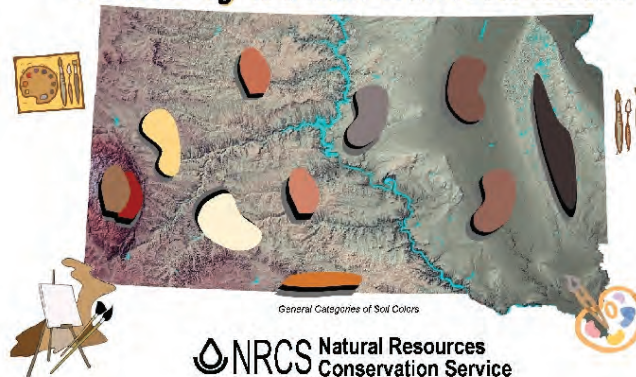
Uses of Soil Color

Over the centuries, humans have used earth colors as body paints, pigment in bricks, pottery and artwork. Modern American culture uses colored earth in cosmetics and ceramics, and as pigments for paints.

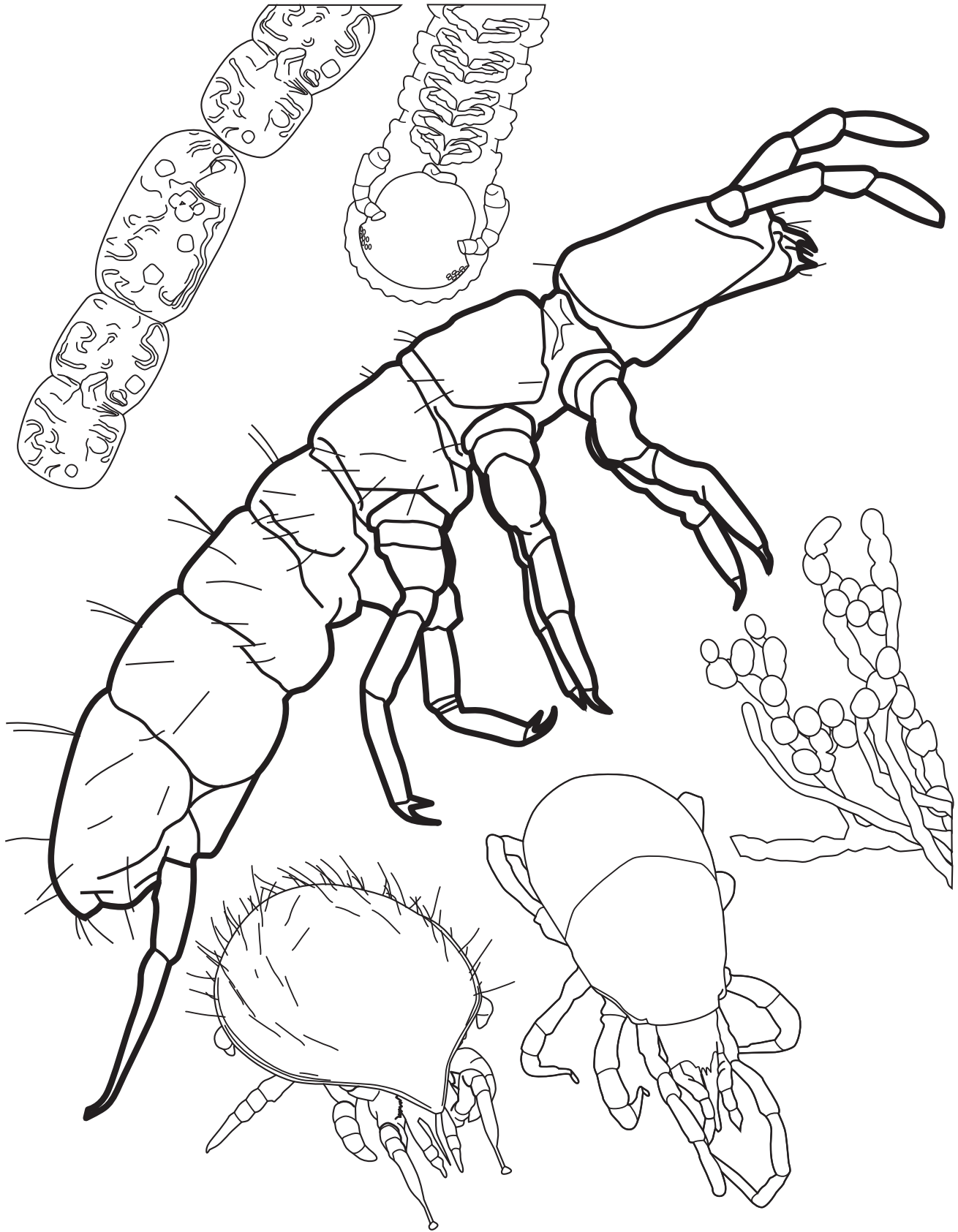
The South Dakota Soil Color Palette

Soils are important for the beauty their many colors add to our landscape. Most of us overlook this natural beauty because we see it every day. Often these colors blend with vegetation, sky, water, etc. Soil scientists have mapped over 650 different soils in South Dakota. Each soil has its own unique characteristics. This map does not depict the true colors of all the soils. Rather, it shows a general trend of lighter colored top soils in the west and darker top soils in the east. Organic matter built up over millions of years makes the topsoil darker.

Colors of South Dakota Soils



This drawing shows organisms in the soil. The largest is a Springtail.
You can color in the images using soil paint, crayons, makers or colored pencils.

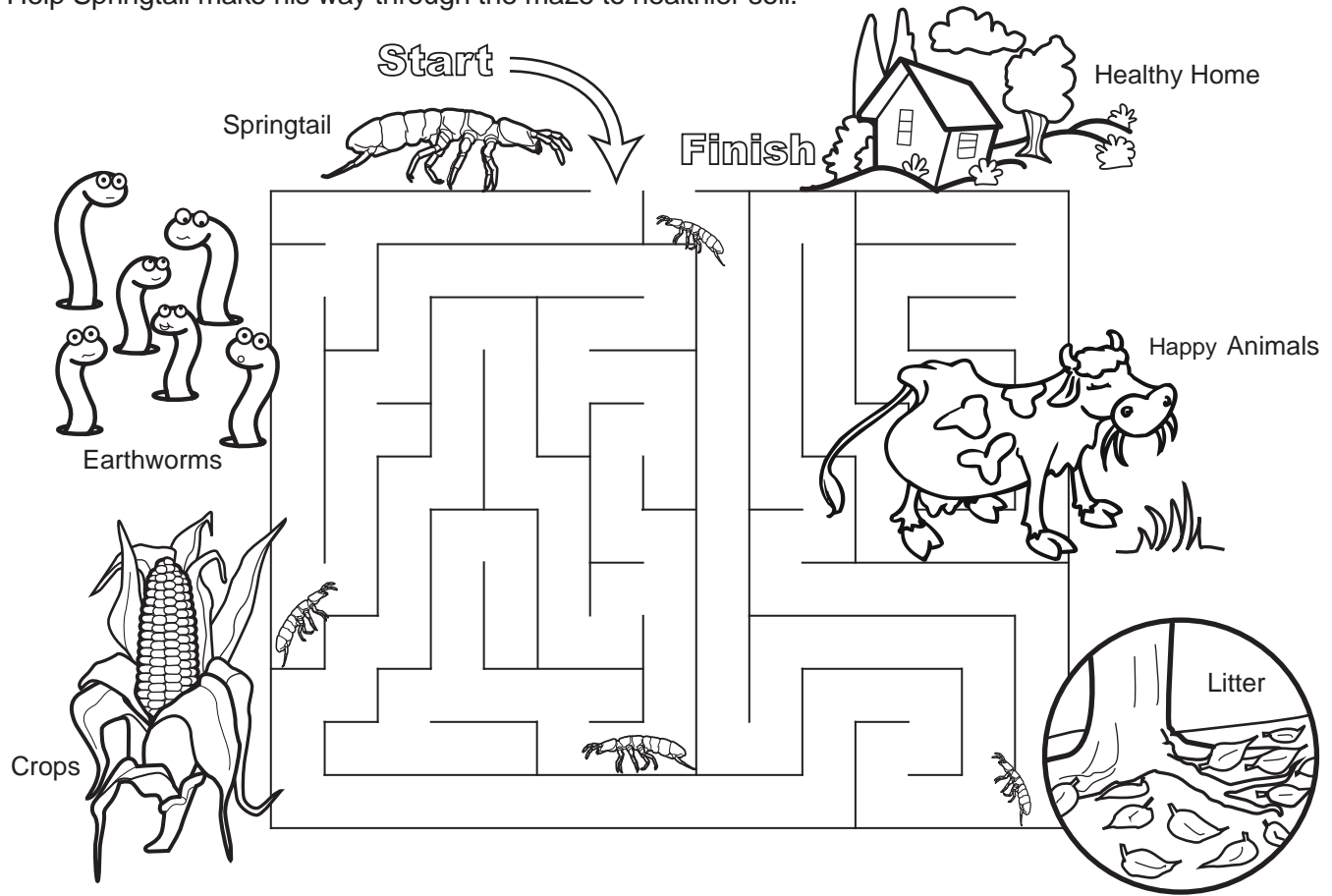


Spring into Action and Keep Soil Alive

Conserving and protecting the soil is the best way to make sure the soil stays alive and healthy. We can all do our part in keeping the soil healthy. When growing crops, we can let the unused parts of the plants return to the soil as organic matter. Our food scraps and grass clippings can be placed into a compost bin and put back into the soil when they are decomposed. We can also grow grass and trees to cover the soil and keep it from eroding (blowing or washing away.) Eroding soil pollutes the air and water and makes them unsafe for all of us to breathe and use.

The Natural Resources Conservation Service, sometimes called "NRCS," is an agency under the United States Department of Agriculture. NRCS helps farmers and ranchers conserve soil, water, and energy while they provide high quality food, fiber, and wildlife habitat that we all enjoy. By practicing what you have learned in this activity book, you too can join Springtail in doing something to keep the soil where we want it to be, "right beneath our feet."

Help Springtail make his way through the maze to healthier soil.

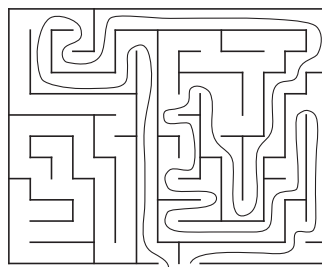


- 8. plowing
- 7. fire
- 6. gasses
- 5. organic matter
- 4. roots
- 3. no-till
- 2. trees
- 1. healthy air

page 4

- 4. C
- 3. B
- 2. A
- 1. O

page 2



page 7



page 5

- 1. red
- 2. yellow