

Soil Ag Mag - Vocabulary - Matching

Directions: Match the word with the correct definition.

- | | |
|--------------------------|---|
| _____ 1. Clay Soil | A. Nourishing substances |
| _____ 2. Erosion | B. Organic matter made up of dead plants |
| _____ 3. Humus | C. Wearing away of soil by wind and water |
| _____ 4. Nutrients | D. Plowing fields after harvest to mix the plant stems with leaves and with the soil |
| _____ 5. Parent Material | E. Soil made up mostly of sand that allows water and air to move through it easily |
| _____ 6. Sandy Soil | F. Soil that feels smooth when moist and is easier to plow than clay |
| _____ 7. Silt | G. Soil that is mostly clay with some organic matter, some silt, and a little sand |
| _____ 8. Subsoil | H. Layer of soil where plants grow and that contains most nutrients, organisms and roots. |
| _____ 9. Tilling | I. Layer of soil about one foot below the surface where earthworms and deep roots live |
| _____ 10. Topsoil | J. Bottom compacted layer of soil three feet below the surface that often has stones and rocks |

Soil Ag Mag - Math - Solving Equations

Directions: Choose the best answer. For questions 1 - 4, let $y = 6x + 3$.
For questions 5 - 8, let $y = 4x - 2$.

1

What is y when x is 4?

- A 13
- B 27
- C 9
- D 18

2

What is y when x is 3?

- A 12
- B 15
- C 21
- D 9

3

What is y when x is 1?

- A 9
- B 10
- C 12
- D 18

4

What is y when x is 10?

- A 19
- B 36
- C 46
- D 63

5

What is y when x is 4?

- A 14
- B 10
- C 8
- D 2

6

What is y when x is 6?

- A 14
- B 22
- C 10
- D 8

7

What is y when x is 8?

- A 10
- B 30
- C 16
- D 24

8

What is y when x is 2?

- A 4
- B 8
- C 12
- D 6

Soil Ag Mag - Reading Passage

Soil

By Chris Oxlade

Soil is a natural material. Soil covers the top of the ground in gardens, fields, meadows, and many other places. Plants grow in soil, from tiny flowers to huge trees. Soil contains nutrients and water that plants need to grow.

Soil is made of different materials. One material is rock that has been broken into small pieces. Some bits of rock are large pebbles. Others are tiny grains. Soil also contains bits of dead plants, such as leaves and twigs. They slowly rot away. These rotten bits are called humus. Humus contains nutrients that keep soil healthy.

There are many different kinds of soil. One type of soil contains tiny grains of rock that make it a brownish-red color. It is called clay. Another soil is dark brown. It contains many rotting roots and leaves. It is called peat. It is found in wet, marshy places.

There are small pieces of air between the bits that make up soil. In sandy soil, the spaces between the grains of sand are big. This way, rainwater can quickly drain away. The bits of rock in clay soil are very tiny. There are only small spaces between the bits. Rainwater cannot drain through them quickly. It lies on top of the clay in puddles.

Humus is the name for the bits of dead plants in the soil. Humus is made of leaves that fall from trees and parts of dead plants. The leaves and dead plants slowly rot away. They turn brown and mushy. After a while, they become part of the soil. Humus helps keep the soil from drying up.

Many different animals live in the soil. Worms burrow through the soil. As they burrow, they break up the soil. This lets air and water into it and helps plants grow. Millions of tiny creatures live in the soil. They are so small you can only see them with a microscope.

As a plant grows, its roots grow down into the soil. Roots grip the soil and keep plants from blowing over in the wind. The roots of a plant soak up water and nutrients from the soil. Tiny root hairs stick out from the root. They collect the water and nutrients.

Farmers grow crops in fields of soil. Before they plant seeds, they have to get the soil ready. They dig it over with a plow. This brings fresh soil to the top. Gardeners also prepare soil before they plant seeds. They dig up the soil with a tool called a spade. This brings fresh soil to the top and breaks it into small pieces.

Plants take nutrients from the soil. When plants die, they rot away. This puts the nutrients back into the soil. Gardeners add rotted plants to the soil to keep it healthy. Farmers gather up all the crops in their fields. This means there are no plants left to put nutrients into the soil. The farmer has to add fertilizer to put the nutrients back.

Soil washes away easily. If too many trees are cut down, there are no tree roots to hold the soil together. Then, heavy rain can wash the soil away. Soil can be spoiled by pollution. When garbage and chemicals are spilled into the soil it is hard for plants to grow. Only some strong weeds can survive.

Soil Ag Mag - Reading Passage

Directions: Read each questions and choose the best answer.

1

Soil is made up of which of the following:

- A Rock
- B Dead plants
- C Sand
- D All of the above

2

_____ is the name for the bits of dead plants in the soil.

- A Humus
- B Dirt
- C Nutrients
- D Minerals

3

Roots serve which of the following purposes?

- A Keep plants from blowing over.
- B Soak up water and nutrients.
- C Keep soil from washing away.
- D All of the above

4

Farmers use a plow to turn over soil. Gardeners use a tool called a _____.

- A Hoe
- B Spade
- C Rake
- D Shovel

Soil Ag Mag - Reading Passage

Directions: Read each question and choose the best answer.

5

Humus helps the soil in all of the following ways except:

- A Keeps the soil healthy.
- B Keeps the soil from drying up.
- C Keeps breaking up the soil by burrowing.
- D Keeps replacing the nutrients in the soil.

6

To put nutrients back into the soil after harvesting their crop, farmers have to add _____.

- A Humus
- B Fertilizer
- C Rocks
- D Minerals

7

Rainwater cannot drain quickly through which type of soil?

- A Clay
- B Silt
- C Peat
- D Sand

8

Which type of soil has large air spaces?

- A Clay
- B Silt
- C Peat
- D Sand

Extended Response

Why is soil so important? Think about the impact of soil on agriculture and the food you eat. Also be sure to think about the plants and animals that depend on the soil. Be sure to use your own knowledge and experiences with information you learned from the Soil Ag Mag to support your answer.