

## Basics of Soil Science Worksheet

**Instructions: Match the term with the correct definition. (2 points each)**

- \_\_\_\_\_ 1. The leaching of clay iron and other materials from the A horizon
- \_\_\_\_\_ 2. The inorganic material originating from rock
- \_\_\_\_\_ 3. Ponds and other reservoirs constructed out of the soil
- \_\_\_\_\_ 4. The C horizon is also referred to as the
- \_\_\_\_\_ 5. Together the A and B horizons are known as
- \_\_\_\_\_ 6. A vertical cross-section of the soil exposing various layers of the soil
- \_\_\_\_\_ 7. The living together of unlike organisms.
- \_\_\_\_\_ 8. The accumulation of materials from the A horizon in the B horizon
- \_\_\_\_\_ 9. These are provided as minerals
- \_\_\_\_\_ 10. Area in between the soil particles

- A. Substratum
- B. Illuviation
- C. Symbiosis
- D. Pore Space
- E. Solum
- F. Nutrients
- G. Mineral matter
- H. Eluviation
- I. Soil Profile
- J. Water Structures

**Instructions: Write the letter of the correct answer (3 points each)**

- \_\_\_\_\_ 11. The \_\_\_\_\_ refers to the size of the individual soil particles, or the fineness or coarseness of the soil.
  - a. Soil Tilth
  - b. Soil Texture
  - c. Soil Structure
  - d. Soil Profile
- \_\_\_\_\_ 12. What type of soil contains some of each of the sizes of soil particles?
  - a. Loam
  - b. Sandy clay
  - c. Silt
  - d. Silty clay
- \_\_\_\_\_ 13. Which of the following is considered a nonagricultural use of soil?
  - a. Cropland
  - b. Grazing land
  - c. Natural resources
  - d. Recreation
- \_\_\_\_\_ 14. Water \_\_\_\_\_ filters through \_\_\_\_\_ particles.
  - a. quickly, clay
  - b. slowly, silt
  - c. slowly, sand
  - d. quickly, sand
- \_\_\_\_\_ 15. What effect do organisms have on the soil?
  - a. Soil organisms actually have little effect on the soil.
  - b. Their activities increase the available mineral matter.
  - c. Their activities enhance drainage and improve air exchange.
  - d. They deplete the soil of essential nutrients for plant growth.

**Instructions: Read each statement below carefully to decide if it is correct. Clearly circle True or False for each. If the statement is false, correct it on the line below. (3 points each)**

16. True or False – The amount of air and water will account for 50% of all soils.

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17. True or False – The B horizon has the most plant and animal life because it has more nutrients.

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18. True or False – The R horizon is broken into multiple pieces of rock.

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19. True or False – The A and B horizons are where most plant roots grow.

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20. True or False – The soil profile will usually be darker at the top and lighter as it goes down.

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**Instructions: Complete the following**

21. What four basic plant needs are provided by soil? **(4 points)**

22. List 3 of the 5 soil-forming factors. **(3 points)**

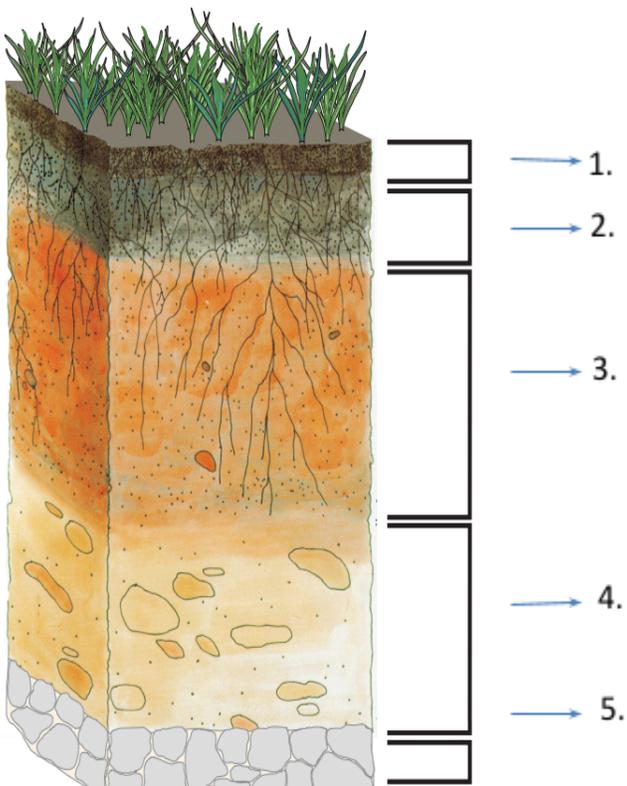
23. What are three examples of biological life that might be found in the soil? **(3 points)**

24. Name the three soil particle sizes in order from **largest to smallest**. **(3 points)**

25. Soil is composed of the following components. **(4 points)**

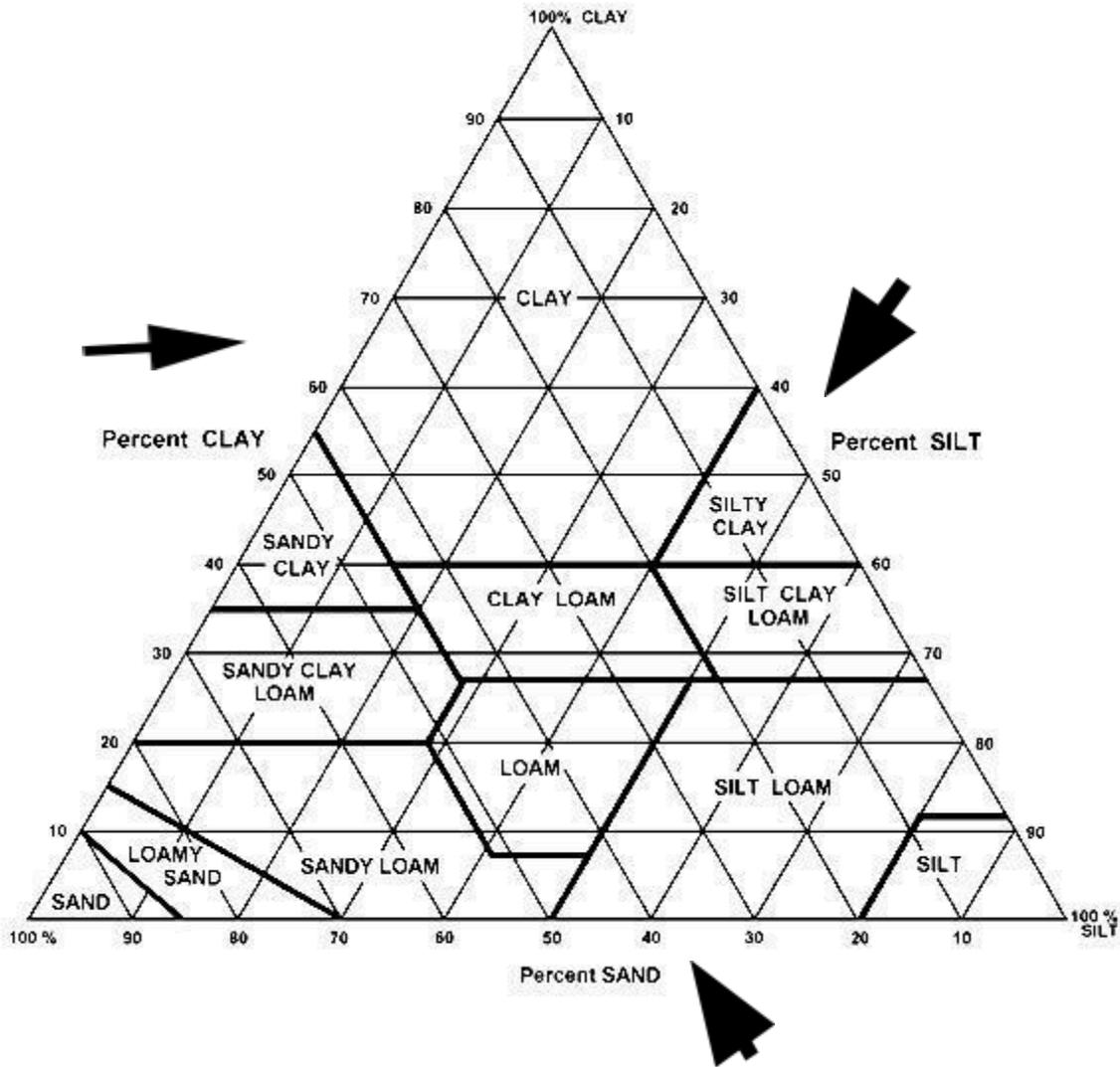
- a. \_\_\_\_\_% mineral matter
- b. 5% \_\_\_\_\_
- c. \_\_\_\_\_% water
- d. 25% \_\_\_\_\_

26. Label the horizons of the following soil profile and include a description of each. **(15 points)**



27. Using the soil texture triangle below, determine the following soil textures for the percent sand, silt, and clay given. (3 points)

	% Sand	% Silt	% Clay	Soil Texture
a)	56	42	2	_____
b)	30	35	35	_____
c)	10	15	75	_____



28. Describe how the different soil particles affect drainage, nutrient-holding capacity, water-holding capacity, and aeration of the various soil texture/types. (5 points total)

29. In paragraph form, using at least 5 complete sentences discuss at least 5 of the non-agriculture and agriculture uses of soil. Provide a description and example for each. **(10 points total)**

**Bonus- 2 points each**

1. Name of the test we used in class where we wet the soil to determine its soil texture name.
2. What gives the soil in our area its red color?
3. Give an example of a soil organism that helps improve the soil and explain how.
4. Why is loam considered to be the best soil for most plants?
5. Which soil horizon is subject to the most change and why?