



BIOLOGY

BOOKS - BETOPPERS

SOIL

Formative Worksheet

1. Soil formation is a (fast/slow) process.



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2. Rocks break up due to (only physical/physical and chemical) weathering.



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3. (Physical/Chemical) weathering is a mechanical process.



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4. Microorganisms break down animal and plant remains to form _____ (soil/humns).



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5. (Topsoil/Subsoil) is rich in humus.



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6. In _____ (physical/chemical) weathering, the chemical nature of the rock is not altered.



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7. The difference in particle size of the soil constituents determines its _____ (texture/colour).



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8. _____ (Clayey/Sandy) soil becomes sticky and plastic when wet.



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9. _____ (Lime/Peat) is added to acidic soils to raise the pH.



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10. The method of growing crops on steps in hilly regions is called _____ (terrace/improper) farming.



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11. Reduction or prevention of soil erosion is called soil _____. (conservation/pollution).



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12. The removal of trees on large scale is known as _____ (afforestation/deforestation).



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13. _____ (Chemical/Organic) pesticides should be used to decrease soil pollution.



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14. From which layer of soil do plants get their nutrients?

A. Topsoil

B. Subsoil

C. Parent rock

D. Bedrock

Answer:



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15. What are the four main layers in a soil profile?

A. Air

B. Minerals

C. Humus

D. Pebbles

Answer:



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16. Which is made up of decayed plants and animals?

A. Clay

B. Loamy

C. Sand

D. Topsoil

Answer:



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17. Type of soil that has the maximum water absorption tendency:

A. Soil pollution

B. Weathering

C. Soil formation

D. Removal of soil by wind and running water

Answer:



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18. Soil erosion is



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19. Define the terms:

Soil



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20. Define the terms:

Humus



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21. Define the terms:

Soil profile



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22. Define the terms:

Weathering



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23. Give two main characteristics of:

Sandy soil



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24. Give two main characteristics of:

Loamy soil



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25. Give two main characteristics of:

Clayey soil



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26. Soil is classified on the basis of the proportion of particles of various sizes. If soil contains greater proportion of bigger particles, then it is known as _____ soil whereas if the proportion of finer particles is greater, then it is _____ soil. The

information in which alternative completes the given statement?

A. i- loamy ii- sandy

B. i- clayey ii- sandy

C. i- sandy ii- clayey

D. i- loamy ii- clayey

Answer:



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27. Sandy soil is well aerated and drains water quickly when compared to clayey soil. This is because it contains soil particles that are

- A. larger in size
- B. smaller in size
- C. rich in humus content
- D. poor in humus content

Answer:



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28. Which of the following agents is responsible for soil erosion?

A. Solar radiations

B. Soil organisms

C. River water

D. Plant roots

Answer:



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29. Which of the following natural phenomena is not caused by human activities?

- A. Acid rain
- B. Global warming
- C. Volcanic eruption
- D. Ozone layer depletion

Answer:



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30. Grasslands are big open spaces that are covered with grass but lack trees and heavy bushes. It is a region where large herds of grazing animals are commonly found. The speed of animals that are found in grasslands is extremely important for their survival. Which of the following animals is not found in grasslands?

A. Seal

B. Zebra

C. Giraffe

D. Bison

Answer:



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31. Sand is not used to make vases because the soil particles are

A. Fine with air spaces

B. Large with air spaces

C. Fine and can retain. water

D. Large and can retain water

Answer:



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32. These weathering agents break down the rocks by its constant collision with the rocks. Which two agents are responsible for the process described in the above statement?

A. Organisms and wind

B. Sun and organisms

C. Wind and water

D. Water and Sun

Answer:



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33. A certain soil type contains soil particles that are very large in size when compared to the soil particles of other soil types. The described soil is identified to be

A. Clay

B. Loam

C. Sand

D. Silt

Answer:



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34. Rocks expand and contract continuously over a period of many years. This causes the rocks to break down leading to an important

process called weathering. Which factor is responsible for the described phenomenon?

A. Organisms

B. Water

C. Wind

D. Sun

Answer:



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35. Clayey soil is used to make items such as vases because it contains

- A. Fine soil particles
- B. Rough soil particles
- C. Large soil particles
- D. Loose soil particles

Answer:



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36. Deforestation will increase the occurrence of which of the following events?

A. Snowfall

B. Soil erosion

C. Heavy rainfall

D. Depletion of ozone layer

Answer:



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37. During the day, the rocks _____ while at night, they _____. This results in the formation of _____. The information in which alternative completes the given statement?

A. i- expand ·ii- contract iii- mountains

B. i- expand ii- contract iii- cracks

C. i- contract ii- expand iii- cracks

D. i- contract ii- expand iii- mountains

Answer:



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38. Reena was making -notes of the chapter 'Soil'. She wrote down the given points from the chapter.

I. The formation of soil is independent of climate of an area.

II. Water helps in the formation of soil.

III. Soil contains small particles of rocks.

IV. The top soil and the sub-soil contain humus.

However, she later realised that she had made

some mistakes in her notes.

Which of the following pairs of statements is incorrectly written by Reena?

- A. I and II
- B. II and III
- C. II and IV
- D. I and IV

Answer:



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Conceptive Worksheet

1. Which of the following is a mixture of decomposed organic matter and is usually dark in colour?

A. Clay

B. Humus

C. Podzol

D. Loam

Answer:



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2. Which of the following describes hygroscopic water?

A. Water held as a tight film around individual soil particles and unavailable to plants

B. Water which is available to drain through the soil by gravity

C. Water which ponds up on the soil surface.

D. Water which represents the majority available for plant uptake

Answer:



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3. Soil acidity is measured by the concentration of which cation?

A. Sodium

B. Magnesium

C. Hydrogen

D. Calcium

Answer:



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4. In which condition do organic acids cause iron to be transported downward through the soil profile?

A. Podzolisation

B. Laterisation

C. Gleying

D. Salinisation

Answer:



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5. Which system is commonly used to describe the colour of a soil?

A. Fluorimeter

B. Munsell Colour Chart

C. FAO Soil classification chart

D. USDA Soil type table

Answer:



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6. From which elements are clay minerals formed?

A. Sodium and Potassium

B. Hydrogen and Oxygen

C. Calcium and Aluminium

D. Aluminium and Silicon

Answer:



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7. How many essential elements are there without which green plants cannot grow normally?

A. 6

B. 56

C. 16

D. 19

Answer:



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8. Why are cations attracted to clay minerals?

A. Because of the temperature gradients

B. Because of electrostatic attractions

C. Because no other minerals will bond
with cations

D. Because clay minerals are the largest soil
particles

Answer:



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9. How much more carbon do soils store than the atmosphere?

A. Ten times as much

B. Half

C. One third

D. Twice as much

Answer:



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10. Why is it important to apply nitrogen fertiliser at an appropriate time of year?

A. The fertiliser only works above 10°C

B. Fertiliser requires a threshold level of soil water to work

C. During winter, nitrate is more easily leached from the soil when there is no vegetation cover

D. Fertiliser is more expensive during certain months of the year

Answer:



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11. Which of the following practices will not help in preventing soil erosion?

- A. Planting trees and grasses
- B. Practising terrace farming
- C. Constructing strong embankments
- D. Assing fertilisers and manures to soil

Answer:



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12. Consider the following statements regarding the types of soil.

I. Sandy soil can retain more air than clayey soil.

II. Clayey soil can retain more water than loamy soil.

III. Loamy soil can retain less water than sandy soil.

A. only I is correct

B. only III is correct

C. both I and II are correct

D. both II and III are correct

Answer:



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13. Soils are classified as sandy, loamy or clayey depending on the relative size of the particles. Which of the following tables correctly

matches the soil type with its relative particle size?

- A.
- | Soil type | Relative size of particles |
|-----------|---------------------------------|
| Loamy | Large |
| Sandy | Mixture of both large and small |
| Clayey | Small |

- B.
- | Soil type | Relative size of particles |
|-----------|---------------------------------|
| Loamy | Small |
| Sandy | Large |
| Clayey | Mixture of both large and small |

- C.
- | Soil type | Relative size of particles |
|-----------|---------------------------------|
| Loamy | Mixture of both large and small |
| Sandy | Large |
| Clayey | Small |

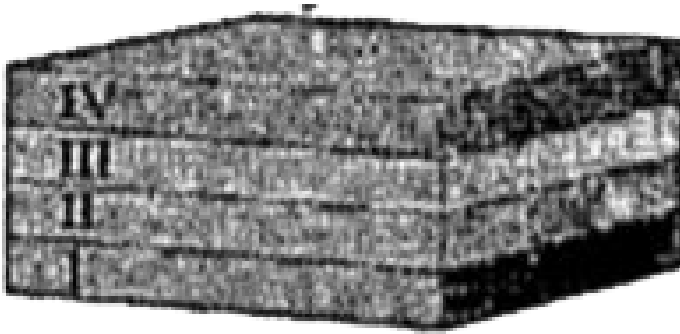
- D.
- | Soil type | Relative size of particles |
|-----------|---------------------------------|
| Loamy | Small |
| Sandy | Large |
| Clayey | Mixture of both large and small |

Answer:



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14. The given diagram illustrates the various layers of rock.



If the fossils of dinosaurs are found in layer II, then the fossils of modern day reptiles are most likely to be found in which layers?

A. I, II

B. II, III

C. III, IV

D. IV, I

Answer:



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15. Joyeeta collects a sample of soil from an area. She observes that the soil is composed of sand, clay, gravel and humus. She mixes the soil into a glass of water and allows the mixture to settle down. She observes that different components settle in different layers

in the glass. 'Which of the following arrow diagrams correctly represents the sequence in which the different components settle in the glass, starting from the topmost layer?

A. Clay → Gravel → Water → Sand
→ Humns

B. Humns → Sand → Water → Gravel
→ Clay

C. Humns → Water → Clay → Sand
→ Gravel

D. Gravel → Sand → Clay → Water
→ Humus

Answer:



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16. Which of the following agents is responsible for soil erosion?

A. Solar radiations

B. Soil organisms

C. River water

D. Plant roots.

Answer:



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Summative Worksheet Multiple Choice Question

1. The process of soil formation is called

A. Conservation

B. Weathering

C. Erosion

D. None of the above

Answer:



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2. Soil profile consists of

A. Two layers

B. Three layers

C. Four layers

D. Five layers

Answer:



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3. Parentrock material is present in

A. A-horizon

B. B-horizon

C. C-horizon

D. bed rock

Answer:



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4. Humus is present in

A. A-horizon

B. B-horizon

C. C-horizon

D. bed rock

Answer:



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5. Soils best suited for plant growth are

A. Loamy

B. Clayey

C. Sandy

D. None of the above

Answer:



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Summative Worksheet True Or False

1. A fertile soil is rich in humus.



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2. Sandy soils are best suited for plant growth.



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3. A clayey soil has more proportion of fine particles



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4. Capillary water is the water available to the plants for absorption.



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5. Dark coloured soils are rich in organic matter



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6. Proper drainage in a field helps to prevent soil erosion.



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7. Crop rotation enriches soil fertility.



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8. Over-grazing is a means of soil conservation.



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Summative Worksheet Fill In The Blanks

1. Clay particles range in size from to _____.



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2. Humus is present in _____ horizon of the soil profile.



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3. A-horizon is also known as _____.



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4. Bed rock is found below the horizon _____.





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5. Planting of trees is called _____.



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6. Red colour of soil is due to _____.



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7. Humus content is the highest in _____ soil.



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Summative Worksheet Define The Following

1. Define the following:

Soil



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2. Define the following:

(i) Weathering



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3. Define the following:

Soil erosion



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4. Define the following:

Loam



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5. Define the following:

Soil texture



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6. Define the terms:

Humus



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7. Define the following:

Terrace cropping



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8. Define the following:

Residual soil



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Summative Worksheet

1. Which soil horizon is rich in humus?



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2. Which type of soil is best suited for growth of plants? Give reasons in support of your answer.



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3. What is meant by soil profile? Give the characteristics of different horizons observed in the soil profile.



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4. With the help of a diagram, illustrate the soil profile.



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5. How is soil formed? Describe in brief



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6. Name the different types of particles present in soil.





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7. Name the various types of soils and the basis of their classification.



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8. Describe the composition of soil.



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9. Mention the characteristics of mountainous soil and black soil.



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10. Distinguish between sandy, clayey and loamy soils.



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11. Distinguish between residual and transported soils.



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12. How is soil important to us? Explain.



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13. Describe the factors which cause soil erosion.



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14. How can soil erosion be prevented?



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