

## Landscape Training Manual, Ohio Certified Nursery Technician (OCNT) Chapter 1 – Soils

1. Incorporating soil amendments into the soil is done to modify the characteristics of \_\_\_\_\_.
  - A. Organic capacity
  - B. Drainage
  - C. Water holding capacity
  - D. Both B & C
2. Cations are attracted to the negative sites on the clay particles and attach to those sites by electrostatic bonds.
  - A. True
  - B. False
3. C.E.C. stands for \_\_\_\_\_.
  - A. Concentration express content
  - B. Clay exchange current
  - C. Chlorotic environmental capability
  - D. Cationic exchange capacity
4. If you believe a plant has a nutrient deficiency such as chlorosis, the best way to diagnose the plant would be \_\_\_\_\_.
  - A. Check for organic material in the soil
  - B. Check for well drained soil
  - C. Take samples and send for a soil test
  - D. Incorporate organic matter with a rototiller
5. Soil laboratories will never test for \_\_\_\_\_.
  - A. Nitrogen
  - B. Phosphorus
  - C. Potassium
  - D. pH
6. Clay particles tend to have a negative cation charge.
  - A. True
  - B. False
7. Clay has a higher surface area therefore it will hold on to water.
  - A. True
  - B. False
8. The higher the buffering capacity of the soil, the harder it will be to change elements in the soils such as pH.
  - A. True
  - B. False
9. The higher level of free Hydrogen (reserve acidity) in the soil would increase the \_\_\_\_\_.
  - A. Buffering capacity
  - B. Drainage capacity
  - C. Acidity
  - D. Alkalinity
10. The following terms describe general characteristics of good soil:
  - A. Biological, chemical and physical
  - B. Biological, manual, chemical
  - C. Host, environment, pathogen
  - D. Monitor, prevent, control

11. A form of measuring how much storage capacity the soil has for certain nutrients, notably potassium, calcium, and magnesium, is known as \_\_\_\_\_.
- A. Nutrient capacity
  - B. Soluble salts
  - C. Bulk density
  - D. Cation exchange capacity (CEC)
12. pH stands for the potential hydrogen available in solution.
- A. True
  - B. False
13. Soil formation is affected by topography, time, climate, and micro & macro organisms.
- A. True
  - B. False
14. Addition of lime to the soil will raise the pH of the soil.
- A. True
  - B. False
15. An acid soil will have a pH below 7.0 and a basic or alkaline soil will have a pH above 7.
- A. True
  - B. False
16. A soil that is considered coarse is high in \_\_\_\_\_.
- A. Silt content
  - B. Sand content
  - C. Clay content
  - D. Aggregates
17. Elemental sulfur is the best component to \_\_\_\_\_.
- A. Decrease pH
  - B. Increase pH
  - C. Aerate soil
  - D. Increase Nitrogen

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## Chapter 2 - Landscape Design

1. A landscape designer uses a sequence of problem solving steps is referred to as the landscape design process.
  - A. True
  - B. False
2. The transition between outdoor rooms is similar to the hallway in a house.
  - A. True
  - B. False
3. The master plan step in the landscape design incorporates which of the following:
  - A. Refining the preliminary design
  - B. Incorporating revisions from the client
  - C. Supplying suggestions for materials
  - D. All of the above
4. A good designer does not reflect nor evaluate the success of a design by observing the design as it matures.
  - A. True
  - B. False
5. Knowing how a customer will maintain their landscape is not part of the design process.
  - A. True
  - B. False
6. Which of the following are not considered a step in the design process?
  - A. Form study
  - B. Preliminary Diagram
  - C. Functional Diagrams
  - D. Master Plan
7. Following the landscape design steps helps with client communication and information management.
  - A. True
  - B. False
8. Underground and above ground utility locations are important to know before a designer begins the design process.
  - A. True
  - B. False
9. The first step of the design process is creating a base map.
  - A. True
  - B. False
10. Client education in plant maintenance is an important part of the long-term health of a beautiful landscape.
  - A. True
  - B. False

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### Chapter 3 - Plant Installation

1. A common mistake in initial landscape installations is selecting plants that will fit the site for a very long time
  - A. True
  - B. False
2. A deciduous plant is a plant that \_\_\_\_\_.
  - A. loses its leaves in fall
  - B. stays green all year
  - C. dies back to the ground
  - D. lasts only one year
3. A general rule for staking a 2.5" caliper tree is \_\_\_\_\_.
  - A. 2 stakes parallel with the trunk of the tree
  - B. one stake at a 45 degree angle to the prevailing wind.
  - C. anchor at three points with wire
  - D. anchor at four points with wire
4. A plant can outgrow structural problems over time.
  - A. True
  - B. False
5. About half of the wire basket should be removed when planting a large tree.
  - A. True
  - B. False
6. According to research, the best way to insure success is planting is to dig a hole \_\_\_\_\_.
  - A. dish-shaped, 2-3 times the diameter of the root ball / root mass
  - B. straight-sided 2-3 times the diameter of the root ball
  - C. dish-shaped, 1-2 times the diameter of the root ball with organic matter added
  - D. straight-sided, 1-2 times the diameter of the root ball with organic matter added
7. If planting ins less than ideal conditions, add \_\_\_\_\_ to the soil being used to backfill.
  - A. lime
  - B. organic matter
  - C. sand
  - D. silt
8. In terms of ease of storage, from easiest to hardest to store, which of the following is in the correct order?
  - A. Container, B&B, bare root
  - B. B&B, container, bare root
  - C. Bare root, container, B&B
  - D. Container, bare root, B&B

9. In terms of handling ease and versatility, plant material should be selected in the following order:
- A. B&B, bare root, container
  - B. Bare root, B&B, container
  - C. Container, B&B, bare root
  - D. none of the above are correct
10. Most plants grow best under conditions that duplicate their \_\_\_\_\_.
- A. species
  - B. original home
  - C. surrounding plants
  - D. picture
11. Mulch should be added to a depth of \_\_\_\_\_ inches.
- A. 1-2
  - B. 2-3
  - C. 3
  - D. 3-4
12. The irrigation and establishment period for a new planting is \_\_\_\_\_.
- A. the first 4 weeks after planting
  - B. the first 6 weeks after planting
  - C. the first 6 months after planting
  - D. the first complete growing season following planting
13. The only time a plant should be pruned during the planting process is \_\_\_\_\_.
- A. if a branch was broken during transit
  - B. to correct structural problems
  - C. to reduce the leaf area to conserve water
  - D. more than one is correct
14. A trunk flare is the point on the trunk where \_\_\_\_\_.
- A. the trunk transitions into the roots
  - B. the proper planting depth is determined
  - C. the top of the root ball
  - D. the top of the soil in a container grown tree
15. Which of the following are not recommended to protect plants during transportation?
- A. provide protection against gouging of the trunk
  - B. tarp with a mesh trap
  - C. tarp with a solid plastic tarp to protect against the wind
  - D. secure rootballs against movement

## Landscape Training Manual, Ohio Certified Nursery Technician (OCNT) Chapter 4 - Landscape Construction

1. For paver installation, how deep does the space need to be excavated
  - A. 4"
  - B. 6"
  - C. 4" plus the thickness of the paver
  - D. 6" plus the thickness of the paver
2. Using flashing in deck construction helps prevent the deck from shifting.
  - A. True
  - B. False
3. When constructing a 3' high paver seat wall, \_\_\_\_\_ must be part of the base preparation.
  - A. one course of block plus 3-4 inches of base material
  - B. two courses of block plus 3-4 inches of base material
  - C. one course of block plus 6-8 inches of base material
  - D. two course of block plus 6-8 inches of base material
4. To prevent Posts for decks or fences from moving they should never be below the frost line.
  - A. True
  - B. False
5. Stamped asphalt is commonly used in landscape paving.
  - A. True
  - B. False
6. Geogrid is used in all landscape retaining wall installation.
  - A. True
  - B. False
7. When installing a deck, it is important to use a spacer in between boards to allow for \_\_\_\_\_:
  - A. drainage for water
  - B. proper staining
  - C. allow for expansion and contraction
  - D. perpendicular joists
8. Footers for landscape structures should be at least \_\_\_\_\_.
  - A. 6" above the frost line
  - B. 6" below the frost line
  - C. 12" above the frost line
  - D. 12" below the frost line
9. To prevent water build up behind a retaining wall, installers backfill with \_\_\_\_\_.
  - A. compacted soil
  - B. geogrid
  - C. sand
  - D. loose gravel

10. How many cubic yards of soil will need to be excavated from the area for a paver patio that is 15' by 30'? The finished depth must be 6" deep. Please round the number to the nearest half (0.0 – 0.5) a cubic yard.

- A. 5 cubic yards
- B. 7 cubic yards
- C. 9 cubic yards
- D. 11 cubic yards

11. When installing a 15' by 30' patio, how many tons of gravel are required to build this patio project?

The finished gravel depth must be 6". (Given 1 cubic yard of gravel weighs 1.25 ton) Please round the number to the nearest half (0.0 – 0.5) ton.

- A. 9.5 tons
- B. 10.5 tons
- C. 11.5 tons
- D. 12.5 tons

12. How many pounds of screenings will be used for the 15' by 30' patio project if the screenings need to be 2" deep? Given: 1 cubic foot of screenings weighs 100 pounds.

- A. 7000 lbs.
- B. 7500 lbs.
- C. 8000 lbs.
- D. 8500 lbs.

13. How many pavers will be needed if 4.5 paver bricks cover 1 square foot of surface area?

- A. 100
- B. 450
- C. 1050
- D. 2025

14. How many linear feet of plastic snap edge will be needed to go around all sides of this patio?

- A. 60
- B. 90
- C. 225
- D. 450

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**Chapter 5 - Landscape Maintenance**

1. When is the best time to use pre-emergent herbicide for cool season annual weed control?
  - A. spring
  - B. summer
  - C. fall
  - D. winter
2. When is the best time to use pre-emergent herbicide for warm season annual weed control?
  - A. spring
  - B. summer
  - C. fall
  - D. winter
3. Proper irrigation applies 1 inch of water per zone and encourages fibrous turfgrass roots to move down deeper into the soil.
  - A. True
  - B. False
4. Selective herbicides are used to target\_\_\_\_\_.
  - A. all weeds
  - B. specific weeds
  - C. white grubs
  - D. nematodes
5. For systemic herbicide to be successful, the plant must be actively growing.
  - A. True
  - B. False
6. How much of the turfgrass blade should be removed when mowing?
  - A. 1/4
  - B. 1/3
  - C. 1/2
  - D. full blade removal
7. How many hours of sunlight do most landscape plants need?
  - A. 2
  - B. 8
  - C. 6
  - D. 4
8. Soil testing \_\_\_\_\_
  - A. Takes the guesswork out of fertilizing
  - B. Is cost effective
  - C. Helps protect the environment
  - D. All are correct



9. A soil test will not indicate \_\_\_\_\_
- A. Amount of P in the soil
  - B. Amount of Nitrogen in the soil
  - C. Soil pH
  - D. Amount of K in the soil
10. Ideal soil pH for most nutrient availability in a mineral soil is \_\_\_\_\_
- A. 6.0-7.0
  - B. 5.5-6.5
  - C. 7.0-7.5
  - D. 4.5-6.5
11. Slow release fertilizer means that \_\_\_\_\_ must be first converted by soil microbes to a form that plants will be able to utilize.
- A. Potassium
  - B. Nitrogen
  - C. Iron
  - D. Phosphorus
12. Fast release fertilizer products will typically release their nitrogen portion over a \_\_\_\_\_ to \_\_\_\_\_ week period.
- A. 2-4
  - B. 4-6
  - C. 6-8
  - D. 3-6
13. Fertilizer should not be applied \_\_\_\_\_ (Multiple Answer)
- A. During periods of drought
  - B. During the spring
  - C. Before heavy rainfall is expected
  - D. During periods of high heat
14. Multiple, smaller applications of fertilizer are better than one large application.
- A. True
  - B. False