



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES
 ONSITE SEWAGE PROGRAM
REGISTERED OWTS PROFESSIONAL'S CEU

FOR DHSS USE ONLY
Date Paid:
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Onsite Professionals: 2.0 CEUs

\$30.00 CEU Fee

Onsite Wastewater Crossword - Questionnaire #112

Effective July 1, 2010 CEU Fee \$30.00. For Continuing Education Units (CEU) credit, read the articles at the following link and complete the questionnaire below; return the completed crossword puzzle along with a check or money order and mail to: **DHSS, Attn: Fee Receipts, PO Box 570, Jefferson City, MO 65102.**
<http://www.dhss.mo.gov/living/onsite/journalarticles.php>

_____ Last _____ First _____ Middle Initial _____ OWTS Prof. ID Number

_____ Signature _____ Contact Phone Number _____ Date

The crossword puzzle grid consists of 35 numbered starting points for clues. The grid is composed of white squares for letters and black squares for empty space. The numbers are as follows:

- 1: Down, 10 squares
- 2: Down, 10 squares
- 3: Down, 10 squares
- 4: Down, 10 squares
- 5: Across, 6 squares
- 6: Across, 6 squares
- 7: Down, 4 squares
- 8: Across, 10 squares
- 9: Down, 10 squares
- 10: Across, 6 squares
- 11: Down, 10 squares
- 12: Down, 4 squares
- 13: Across, 6 squares
- 14: Across, 10 squares
- 15: Across, 6 squares
- 16: Across, 10 squares
- 17: Across, 10 squares
- 18: Across, 6 squares
- 19: Down, 10 squares
- 20: Down, 10 squares
- 21: Down, 10 squares
- 22: Across, 6 squares
- 23: Across, 6 squares
- 24: Across, 6 squares
- 25: Down, 4 squares
- 26: Down, 10 squares
- 27: Across, 6 squares
- 28: Across, 6 squares
- 29: Down, 4 squares
- 30: Across, 10 squares
- 31: Across, 6 squares
- 32: Across, 6 squares
- 33: Across, 6 squares
- 34: Across, 10 squares
- 35: Across, 10 squares

ACROSS

1. _____ must extend three (3) feet out of excavation
4. Basis for OSHA soil classification system (*two words*)
5. A means of exit
8. Required when excavations are deeper than four (4) feet (*two words*)
10. Dewatering must be performed, or other protective systems used, to avoid _____ - _____
13. Good indicator of how well a soil allows water to move
14. Spots of different shades of soil color resulting from alternating periods of reduction and oxidation
15. National Onsite Wastewater Recycling Association (*abbreviation*)
16. Affects how well the soil can absorb and move water
18. Consortium of Institutes for Decentralized Wastewater Treatment (*abbreviation*)
22. Water percolates slowly through fine textured soils with _____ structure (little structure)
24. Found in soil pores when unsaturated conditions are present
27. Worn for protection when there is a risk of overhead exposure
30. One of three standard preventative measures used in excavations less than twenty (20) feet deep
31. Uniform gray colored soil indicating extended periods of wetness
33. The most effective water treatment system on earth
34. Site and soil evaluations estimate the soil's capacity to accept and _____ water
35. All soil pores are filled with water

DOWN

2. Chemical _____ reactions
3. Ingredient in insect repellants
4. Responsibility of competent person
6. _____ safety is a critical matter that the onsite industry must address
7. Occupational Safety and Health Administration
9. Increasing concern with onsite wastewater treatment
11. Oxygen supported biochemical reaction
12. Permeability is a function of the size and continuity of _____
14. Important in controlling pH of soil water, removing cations through ion exchange and offering adsorption sites
17. Relative proportions of sand, silt and clay
19. Minimum distance from edge of trench to place excavated materials
20. Shielding involves the use of _____ _____ *(two words)*
21. A protective measure achieved by excavating the sides to form one or a series of steps
23. Another of three standard preventative measures used in excavations less than twenty (20) feet deep
25. Smallest size soil particle
26. Used along with life lines when entering a confined space
28. A means of egress that can be used without needing the use of hands
29. Biochemical Oxygen Demand
30. The last of three standard preventative measures used in excavations less than twenty (20) feet deep
32. _____ professionals must be used to ensure that evaluations are performed correctly