

GLOSSARY OF TERMS

ACEQUIA: An irrigation ditch or canal,

ACID: A substance with a pH less than 7; a substance that has more hydrogen ions than hydroxide ions.

ACRE-FOOT: A quantity of water equal to 325,851 gallons; the amount of water that would fill an acre of land to the depth of one foot.

AERATION: The process of mixing with air. In water treatment, aeration helps to release certain contaminants from the water and returns dissolved oxygen to the water.

ALGAE: Small, simple plants that have no roots, stems or leaves. They carry out photosynthesis in rivers, lakes, ponds, oceans and other surface waters.

ALLUVIUM: Material that has been transported and deposited by a river or tributary, often forming alluvial plains.

AQUATIC: Something that lives or grows in or on water.

AQUIFER: A geologic formation of sand and gravel that is saturated with significant amounts of water or capable of holding quantities of water.

ARID: Climatic condition characterized by a lack of moisture because of low amounts of precipitation.

ARROYO: A seasonal river or stream bed that is usually without surface water except after heavy rain storms or snow melt.

ATMOSPHERE: The body of gases surrounding the earth in which weather occurs.

BACTERIA: A type of one-celled organism. Some bacteria transmit diseases, most are decomposers.

BASE: A substance with a pH of more than 7; a substance that has fewer hydrogen ions than hydroxide ions.

BIOSPHERE: The sum of all of the ecosystems on earth.

BOSQUE: The area with trees, shrubs and other riparian vegetation near a river such as the Rio Grande.

CAPILLARY ACTION: The ability of water to climb against the pull of gravity through very small pores.

CARNIVORE: An animal that eats the flesh of other animals.

CLIMATE: The over-all weather conditions of an area.

COAGULATION: The process in water treatment where certain substances are made to group together and fall to the bottom for removal.

CONDENSATION: The physical transformation of water vapor to liquid water.

CONSUMER: An organism that cannot manufacture food from nonliving substances, but instead must feed on other living things for energy.

CONTAMINANT: Any substance which alters the physical, chemical, or biological qualities of water.

DAM: A structure built across a stream or river to capture water that would otherwise flow along the stream or river; usually built to store water or control flooding.

DENSITY: Mass per unit volume.

DEPLETION: Using up, as in depletion of water supplies.

DISINFECTION: The process of water treatment where harmful microorganisms are killed.

DISSOLVE: To pass into solution.

DIVERSITY: The number of species present in an ecosystem.

DROUGHT: A prolonged period of below-average precipitation.

ECOSYSTEM: An ecological system formed by the interaction of organisms with their environment.

EROSION: The movement of surface materials such as soil from one place to another by the forces of wind, water, or gravity.

EVAPORATION: The transformation of water from liquid to vapor.

EXTINCTION: The state of being no longer in existence or living; refers to a species of plants or animals.

FAUNA: The animals of a particular area.

FILTRATION: A process to remove solid particles from water, usually by passing the water through sand or other porous material.

FLOC: In water treatment, particles that have clumped together to form larger masses.

FLOODPLAIN: Land along a stream or river that is periodically flooded when the stream or river overflows its banks.

FLORA: The plants of a particular area.

FOOD CHAIN: A series of species that interact in such a way that certain species feed on other species that are lower on the chain.

FOSSIL AQUIFER: A natural underground water storage area that has collected over hundreds or thousands of years and that is not readily rechargeable.

GROUND WATER: Water that has sunk into the ground from precipitation, streams, ponds or lakes.

HABITAT: The range of environmental factors at a particular location that supports specific plant and animal communities.

HEADWATERS: The beginning water-collecting area of a river system.

HERBIVORE: An animal that eats plants.

HUMIDITY: The amount of water vapor in air.

HYDROLOGIC CYCLE: The continuous circulation of water, in all of its forms, on the earth's surface, underground and in the atmosphere.

HYDROPHYTE: A plant that needs wet conditions to grow.

IRRIGATION DIVERSION: The taking of water from a river system in ditches and canals to agricultural fields.

LEVEE: A natural or man-made embankment that prevents a river or stream from flooding beyond its banks.

MAINSTEM: The main channel of a river system into which tributaries flow.

MESOPHYTE: Plants that grow in areas that are neither too dry or too wet.

MICROORGANISM: An animal that is too small to be seen with the unassisted eye.

NEUTRAL: A substance with a pH of 7; a substance which has an equal number of hydrogen and hydroxide ions.

NON-POINT SOURCES: Where contaminants that are not monitored or measured originate.

NUTRIENT: An element or compound that is needed for the survival, growth, and reproduction of a plant or animal.

OMNIVORE: An animal that feeds on both plants and other animals.

PERCOLATION: The process that occurs when water soaks from the surface into the soil.

pH: A measure of the hydrogen ion concentration of a solution; measured on a scale of 0 to 14.

PHOTOSYNTHESIS: The process in which plants produce starches and sugars from air, water, sunlight, and chlorophyll.

POINT SOURCES: Where contaminants that are monitored, measured, and controlled originate.

POLLUTANTS: Contaminants in water that are likely to injure human, animal, or plant life.

PRECIPITATION: Water that falls from the atmosphere in the form of rain, snow, hail or sleet.

PRODUCER: An organism such as a plant that makes its food from inorganic materials using energy from sunlight.

RECHARGE: The process of refilling an aquifer from rainfall or surface water sources.

RESERVOIR: A human-related body of standing freshwater (usually behind a dam) that is held in reserve for later use.

RIPARIAN: Located or living along or near a stream, river, or other flowing freshwater body of water.

RUNOFF: Water from rain or snow melt that travels along the surface rather than immediately sinking into the ground.

SEDIMENTATION: A process in which heavy particles settle out of water.

SOLVENCY: The property of a liquid such as water which dissolves other substances.

SPECIES: A category of animals or plants.

SURFACE TENSION: A property of water that causes the surface to act like an elastic film because the molecules of water have a stronger attraction for each other than they do for the air above.

SURFACE WATER: Water and ice found in rivers, lakes, swamps and other above-ground water bodies.

SUSTAINABILITY: The use of resources such as rivers so that life can be supported now and in the future.

TRIBUTARY: A smaller river or stream that flows into a larger river or stream.

TURBIDITY: The degree of clarity or opacity of water.

WATERSHED: The land area that delivers runoff water, sediment, and dissolved substances to a body of surface water such as a river.

WATER TABLE: The dividing line between ground below that is totally soaked from the ground above that is not.

WATER VAPOR: Water in its gaseous state.

WETLAND: An area that floods periodically, has water-logged soils, or is covered with a shallow layer of water.

XEROPHYTE: A plant that has adapted to arid conditions.

Water Puzzle Answers

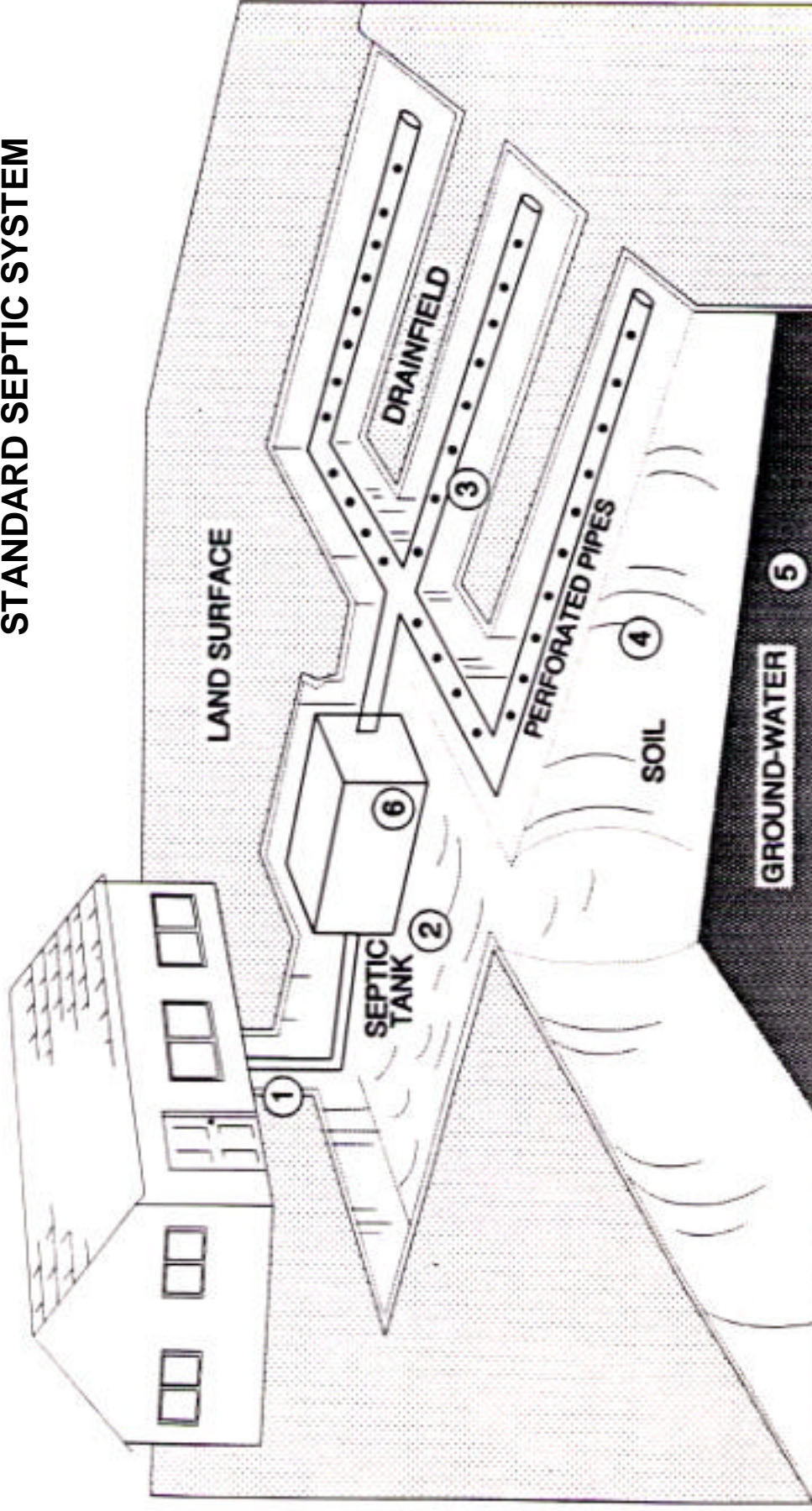
Across:

- 1 . Organisms such as bacteria that break down remains of dead plants and animals. **DECOMPOSERS**
3. A necessary cycle of the river for some plants and trees. **FLOOD**
6. These are carried in the river's water and are used as food by plants in the riparian zones. **NUTRIENTS**
8. The sum of all the ecosystems on Earth. **BIOSPHERE**
10. The interaction of all organisms with the environment. **ECOSYSTEM**
12. The hydrologic _____ helps to circulate fresh water in the environment. **CYCLE**
13. An eater of both plants and the flesh of animals. **OMNIVORE**
14. The place where a plant or animal naturally lives or grows. **HABITAT**
15. Often called the water planet. **EARTH**
17. An example of a decomposer. **FUNGI**
20. A name used to describe the climatic condition in much of N.M. **ARID**
21. An underground layer of sand, gravel or rock through which water can pass and be stored. **AQUIFER**
22. What a good vegetation cover can help avoid. **EROSION**
25. All living things need it but we seem to lack it Monday mornings! **ENERGY**
27. Without this we would have no rivers. **PRECIPITATION**
28. What we try to avoid in water and rivers. **CONTAMINATION**

Down:

2. How plants convert the sun's energy into a usable form. **PHOTOSYNTHESIS**
3. The relationship between all the producers and all the consumers in an ecosystem. **FOODCHAIN**
4. The source of most of the water in the headwaters of the Rio Grande in Colorado. **SNOW**
5. A plant eater. **HERBIVORE**
7. The river process of carrying and depositing silt and sand. It is often worsened by human activities. **SEDIMENTATION**
9. A meat eater. **CARNIVORE**
11. With a growing population, New Mexico wishes it had _____ water. **MORE**
16. Something that we can measure in water and that harms aquatic life if the quantity is too great. **SALINITY**
18. The solid state of water. **ICE**
19. The gas state of water is called water _____. **VAPOR**
20. _____ organisms live in the water. **AQUATIC**
23. The edge of a river. **BANK**
24. The Spanish word for river. **RIO**
26. Parts of plants that help keep soil in river banks from eroding. **ROOTS**

STANDARD SEPTIC SYSTEM



1. Liquid wastes from drain and toilet flow into septic tank.
2. Solids settle to the bottom of the tank (sludge), grease floats to the top (scum), and liquids pass through and flow into drain-field pipes.
3. Water slowly seeps downward from the perforated pipes into the soil, or evaporates from the soil.
4. Chemical and biological processes in the soil treat the liquid waste by changing or eliminating harmful elements.
5. Eventually the treated water reaches the groundwater.
6. Every few years sludge and scum are pumped out of the tank.

SUGGESTIONS FOR FIGURING AREA OF A SCHOOL GROUND FOR "WHERE DOES WATER GO AFTER SCHOOL"

If the school where you teach is on a regular geometric figure or pattern, you will not need these suggestions. However, if your school is on a piece of property that is irregular, it may be helpful to give these aids some consideration.

Large sheets of graph paper, on which you can lay out the map of your school will give a fairly decent estimate of the area. When it comes to those parts of the school that don't fit neatly into a geometric figure, one may resort to dividing those irregular fragments into triangles, finding the areas of the triangles by the formula $A=1/2bh$, where b is the length of the base and h is the height of the triangle from the base to the opposite apex.

This same technique may be used on plots of land that are small or large. Where there are curves and/or arcs, this is a valid estimation technique although not entirely accurate.

If your school district has a map of your school, with all the dimensions, and perhaps including the area, you are in luck and have no need to go through all the figuring above.

There is an example of an irregular area worked out for you below. Remember, the buildings, fields, playground equipment, etc., are all part of the total area, so don't worry about their even being there.

DROP PERPENDICULARS FROM B & D, TO A & C, THE BASE

