

# Chapter 14 – Review Questions

Read Chapter 14 and answer the following questions on a separate sheet of paper.

**ANSWERS MUST BE HANDWRITTEN! Typed responses will not be accepted.**

1. Explain why there is a danger of *water wars* or economic competition between countries for food imports in the Middle East.
2. Why does *access to water* affect (a) global health (b) children, (c) women, (d) national and global security, and (e) the environment?
3. What percentage of the earth's total volume of water is easily available for use by people?
4. Distinguish among *groundwater*, *zone of saturation*, *water table*, *aquifer*, *natural recharge*, *surface runoff*, *reliable runoff*, and *watershed*. Explain how the water in aquifers can be depleted.
5. Since 1900, how much has the total use and per capita use of water by humans increased? About what percentage of the world's reliable runoff is used by humanity? What percentage of that runoff are we projected to be withdrawing by 2025?
6. Distinguish between *water withdrawal* and *consumptive water* use.
7. About what percentage of the water we withdraw each year are used for (a) irrigation, (b) industry, (c) residences and cities?
8. What are the major water uses and water problems of (a) the eastern United States and (b) the western United States?
9. List four causes of *water scarcity*. About how many people live in countries that are water-stressed or water-scarce? How many people are likely to be living in such countries by 2050?
10. Discuss the controversy over whether freshwater resources should be owned and managed by governments or by private corporations.
11. Describe how water and grain are related in the world's markets and how people compete over these resources.
12. List six ways to increase the supply of fresh water in a particular area.
13. List the advantages and disadvantages of supplying more water by withdrawing groundwater. Explain why excessive groundwater withdrawal can be viewed as an example of the tragedy of the commons. What are three harmful effects of groundwater over-pumping?
14. List eight ways to *prevent* or slow groundwater depletion.
15. What are two concerns about withdrawing water from huge, very deep aquifers?
16. List the major advantages and disadvantages of building large dams and reservoirs to supply fresh water.
17. List the major benefits and problems of (a) building numerous dams along the Colorado River basin and (b) China's Three Gorges dam.
18. Describe the controversy over (a) the California Water Transfer Project and (b) the James Bay water transfer project in Canada.
19. Describe the effects of the Aral Sea water transfer project in central Asia.
20. List the advantages and disadvantages of increasing supplies of fresh water by *desalination* of salt water. How useful are *seeding clouds* and towing icebergs for increasing water supplies in water-short areas?
21. About what percentage of the water used by people throughout the world is wasted? To what percentage could we reduce such waste? List two major causes of water waste.
22. Describe three major irrigation systems and list them in order of their efficiency of water use.

23. List nine ways to reduce water waste in irrigation.
24. What is the good news about industry accounting for over a third of water use in the U.S.?
25. List eleven ways to reduce water waste in *industry, homes, and businesses*.
26. Describe *xeriscaping*. Why is it considered a win-win approach to irrigation?
27. What is a tiered water pricing system and what are its benefits?
28. Describe two ways in which we could reduce the use of water in removing industrial and household wastes.
29. List the major benefits and damages caused by floods. List four ways in which humans increase the damages from floods. Describe the nature and causes of flooding problems in Bangladesh.
30. List six ways to prevent or control flooding. Why doesn't providing flood insurance help in preventing flood damage?
31. List eight strategies for using the world's water more sustainably.
32. List ten ways in which you can reduce your use and waste of water.