

**Water Objective Sheet**  
Environmental Science AP

Chapter 13 and 19

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

1. What does "potable" mean? How much water on our planet is potable or suitable for human use?
  2. Describe the unique characteristics of water.
  3. What are the differences between surface water and ground water sources?
  4. Understand the hydrological cycle – include transpiration, groundwater, runoff, aquifer, infiltration and condensation in your answer.
  5. What is a watershed? What watershed do we live in? Where does all the water in our watershed end up?
  
  6. List four causes of water scarcity. Describe the factors which play into a positive feedback loop creating water stress.
  7. List five ways to increase the water supply. List advantages and disadvantages of each strategy.
  8. Summarize a key lesson learned from the following case studies: the Colorado River; Egypt's Aswan High Dam; the California Water Project; the James Bay project; the Aral Sea disaster.
  
  9. What is desalination and what are three methods of desalination?
  10. What are the steps of water purification? (Know them in order)
  
  11. Where does Houston get its water?
  12. What are subsidence and overdraft?
  13. What are the causes and effects of flooding?
  14. How does Houston deal with the danger of flooding?
  15. Assess our current use of groundwater: is it sustainable use?
  
  16. How is sewage treated? What happens to sewage in Houston? What new technologies are being introduced to sewage treatment?
  17. Briefly describe and distinguish among primary, secondary, and tertiary sewage treatment.
  
  18. State the percentage of water wasted throughout the world. Briefly describe measures which can be taken to reduce water losses through irrigation, industry, and home use.
- \*\*\*\*\* Test #1
19. What is DO? What is its importance in aquatic systems?
  20. How is DO added or increased in a body of water?
  21. What is the relationship between heat and DO? Describe the effect of heat on water molecules and explain how DO is driven out at this level.
  
  22. What are the major categories of water pollution, where do they come from, and what effects do they have? Pg 477
  23. What is the difference between point and non-point source pollutants? Give examples of each.
  24. What is the difference between storm drains in the street and the drains that carry water from your sink?
  25. What is the difference between DO and BOD? Draw an oxygen sag curve to illustrate what happens to dissolved oxygen levels in streams below points where degradable oxygen-demanding wastes are added.
  
  26. What are three things that identify a wetland?
  27. What roles does a wetland play in an ecosystem?

28. What is the main threat to our wetlands?  
 29. Historically, why were wetlands filled or drained?  
 30. Describe a prairie pothole. Why would potholes have concentric rings of different plant types? How much difference in elevation is required to create a prairie pothole?  
 31. How can ground water become polluted? What are the main sources of ground water contamination?  
 32. What are some solutions to water pollution from non-point sources?  
 33. What are some solutions to point source pollution?  
 34. Describe the Clean Water Act.
35. What tests did we run in the field, and what did these measurements tell us about water quality?

*It is not until the well runs dry that we know the worth of water. –Ben Franklin*

Mon, March 31  Notes –Obj #1-5  HW – Read and summarize case study; Read p295-300; answer obj #1-7	Tuesday April 1  Present Water Case Studies  HW – Study for quiz	Wednesday/Thursday 4/2/3  Quiz – Obj #1-8 Drinking water activity Desalination demo  HW – Obj #9-10	Friday, April 4  Notes – Obj#11-15; water in Houston  HW – Obj #11-15	Sat April 5 <b>APES review</b> 8:30-2:20  Sharpstown HS  Free lunch and door prizes!
Mon April 7  Notes – sewage treatment; the importance of O2 in water; demo DO kit  HW – Obj #16-17; prelab	Tues April 8  Conservation conversation; review  HW – study for test!	Wed/Thurs April 9,10  <b>TEST</b> – Obj #1-18  LAB – Relationship between temperature and DO  HW – Get permission slip signed; fill in chart on water pollution types and sources and study for quiz	Friday April 11  Quiz – Obj #22 pollution sources; start practicing with water quality testing kits  HW – Obj #19-25; lab write up	
Mon April 14  Quiz – Obj #22  Wetlands  HW – Obj #26-30; complete prelab; complete DO lab	Tues April 15  <b>LAB DUE!!</b> DO and temp  Finish water kits;  HW – dress appropriately and report on time! ☺	Wed April 16/Thurs April 17  <b>OUTDOOR FIELD TESTING!!!!</b> ☺  5 <sup>th</sup> – meet on site at 11:20 7 <sup>th</sup> – meet on site at 1:30  6 <sup>th</sup> – meet on site at 1:30	Friday April 18  Analyze results of field testing  HW – work on lab; study for quiz	
Mon April 21  Solutions  Quiz – Obj #20-30  HW – work on lab	Tues April 22  <b>EARTH DAY!!</b> ☺  Review day  HW – study for test	Wed April 23/ Thursday April 24  <b>TEST</b> – Water Part 2 Obj #19-35  HW – work on lab report	Friday April 25  <b>LAB DUE!!!!!!</b>	Sat April 26  <b>APES review</b> 8:30-2 Lee HS

