Name: Key

Water Review Questions

1. Describe an oxygen sag curve.

Plant nutrient pollution (nitrate/sewage) enters stream. BOD increases as DO decrease and level of organisms decreases to zero to create a dead zone.

2. Identify 2 items targeted for removal during the primary, secondary, and tertiary stages of wastewater treatment. Also identify 1 substance used during disinfection.

Primary	Removes solids
Secondary	Removes dissolved organic material (feces, urine)
Tertiary	Phosphates, Chlorine
Disinfection	Kills pathogens w/ Chlorine or ozone

3. Identify and describe 2 ways to clean up an oil spill.

Id	Describe
Floating Booms	
Skimmer Boats	

4. What is most of our water used for? Agriculture
5. Where does most of our water pollution come from? Agriculture
6. List 2 pros and 2 cons of dams.

Pros	Cons
Stores Water for Home/Agriculture	Disrupts Salmon Migration
Generates Clean Power	Changes ecosystem from River to Lake

7. Where and what is the largest hydroelectric project in the world?

3 Gorges Dam in China

8. Describe how southern California receives its water.

Aquaducts from: ① Owens River Valley
② Sacramento Delta
③ Colorado River

9. Identify 3 ways to conserve water.

Take shorter showers /
low flow toilets / shower heads
Wash clothes / dishes when machine is full

10. Identify 2 ways that we can prevent eutrophication and 2 ways we can clean up eutrophication.

Prevention	Cleanup
Treat water before goes into rivers	aerate lakes
Drainage / catch basins on	pull weeds / algae

11. Describe how desalinization works.

Take salt water - boil water, leave salt behind (distillation)
Push salt water through reverse osmosis filters

12. Identify 2 point sources of pollution and 2 nonpoint sources of pollution.

Point	Non point
Jacobs factory (pipe)	Agriculture Runoff
Cara's Car	Cars / roadways

13. What does fecal coliform levels tell you? water quality
    a. What levels are safe for drinking? 0 ~~ppm~~ colonies
    b. What levels are safe for swimming? 200 colonies

14. Describe 2 sources of groundwater pollution.

landfill Leachate
Saltwater intrusion
perchlorate

8. What % of the Earth is covered in Water? 70%
   a. How much of that is usable Freshwater? 1%
9. List and describe the layers in the Ocean.

Layer	Describe
1.	photic / epipelagic
2.	mesopelagic
3.	Benthic / bathypelagic

10. What is an Estuary? ocean meets sea
11. What does Lentic mean? still Lotic? flowing
12. Describe the 6 types of life found in aquatic systems.

Type of life	Description
Zooplankton	tiny animals
Phytoplankton	tiny plants
Nekton	swimmers
Benthos	bottom dwellers
Decomposers	bacteria / worms

13. List and describe the layers in the Lake.

Layer	Describe
4.	limnetic
5.	Profundal
6.	benthic

14. Compare an Oligotrophic Lake with a Eutrophic Lake.

Oligotrophic	Eutrophic
Clear low nutrients	Murky High Nutrients

15. What is a watershed?

Watershed:
Land area water falls on & collects into basin

Aquatic Biomes

Biome	Salinity Type	Distinguishing Characteristics	Threats
Streams and Rivers	Freshwater <1% Salt concentration	- Flowing (lotic) water - "Riparian" habitats- area adjacent to river or stream - Fast moving water= high oxygen content---supports trout - Slow moving = inc. in sediments and nutrients - deliver nutrients to ecosystems	- Diversion - Dams - Channeling

Lakes and Ponds	Freshwater
	<1% Salt concentration
		- Standing (lentic) bodies of water enclosed by land
		- Spring and fall overturn
		- May be described as
		  ○ Oligotrohic
		  ○ Mesotrophic
		  ○ Eutrophic
			- pollution

Wetlands	Freshwater
	<1% Salt concentration
		- Lowland areas saturated where soils are saturated with water at least part of the time of a year.
		  ○ Marshes- wetlands with emergent grasses
		  ○ Swamps- wetlands with emergent woody vegetation
		  ○ Bogs – wetlands rich in decomposing plant material- acidic soils, mosses
		- Essential Ecosystem services- flood control, water filtration and purification
			- Drained for agriculture and development

Estuaries	Fresh water meets salt water Variable salinity	- Highly productive due to high nutrient content - Area essential for fish nurseries, bird nesting/ reproduction - Ecosystem services- filter pollutants - Mangrove forests- decrease erosion and provide habitats for marine organisms	- Drained for agriculture and development
Coastal/ Intertidal	Marine ~3% salt concentration	- Communities subjected to daily variation in water levels, temperature and sunlight - Animal adaptations to with stand mechanical force of waves	- Destroyed by pollution and human activity
Coral Reef	Marine ~3% salt concentration	- Symbiotic relationship between corals and algae - Shallow region- light penetrates- high photosynthesis - High biodiversity	- Sediment pollution blocks sunlight, lower pH, warmer temperatures= coral bleaching - High nutrient load from runoff allows algae to outcompete coral
Open Ocean	Marine ~3% salt concentration	- Waters constantly mixed by currents - Plankton live in photic zone - Includes benthic and abyssal zones with no light, and little nutrients	- Plastic pollution in th gyres