Topic/Objectives: 9-1 Runoff and Phytoplankton; 1) Illustrate the process of		Name:
eutrophication and its effects on aquatic ecosystems, while relating it to human		Date:
activities		Period:
Essential Question: How does ru	noff from land affect phytoplankton populations	in the ocean?
Questions:	Notes:	
	A is a geographic land a	rea on which runoff water from
	precipitation gathers and flows.	
	 Every decision we make has an effect of 	on the water and
	of the watershed in	
	 Nearly every watershed drains into the 	
	actions affect the health of	
	Scientists use	
	in landforms.	
		re drawn to indicate equal elevation
	and indicate the slope of the land.	
	accounts for only 2% of	Earth's total water and is stored in ice,
	underground and in surface water bodies.	
	Types of freshwater systems and features i	ndudo:
	 Freshwater depressions that store wate 	er such as and
	• which are sometime	es characterized as marshes, swamps
		es characterized as marsnes, swamps
	or bogs ◦	over the banks of the river or stream
	 Flowing water such as 	
	 Underground water sources such as 	
		prced up to the surface.
	 Sediment deposits as the mouths of riv 	ers or streams known as
	·	
	Scientists study a variety of	
	determine the health and quality of water	in a freshwater and marine
	environment.	
	Chemical Parameters	
	• and	levels are important for building
	proteins, DNA and other important con	npounds; where excess can lead to
	(out of control algal	growth).
	 Organisms generally survive best within 	n certain ranges, thus
	changes can affect the food web and h	ealth of the environment.
	 Most marine organisms need 	(DO) to
	release energy from food.	

	Physical and Biological Parameters
	 Physical parameters scientists may study include the size and depth of the
	body of water, velocity, temperature, and
	• is the measurement of how cloudy or clear a body of
	water is; which is affected by sediments, suspended solids and other
	particles in the water.
	Scientist also must consider, plant life
	along the banks of a freshwater body.
	The Mississippi River Watershed drains freshwater from
	, making it the largest US watershed.
	 Freshwater draining from these areas introduce large amounts of nutrients to the, notably <u>nitrogen</u>.
	 Large quantities of lead to eutrophication.
	 Eutrophication occurs when excess nutrients cause an algal bloom,
	producers and algae then die off, resulting in (low oxygen
	levels).
	 is a common cause of algal blooms resulting in
	eutrophication.
	• source pollution is pollution from an unknown or difficult
	to trace source.
	• source pollution is pollution from a known source, such as
	an oil spill.
Summary:	•