**WATER QUALITY AS A CAREER**

* Introduction
	+ Maryland Environmental Service
	+ Water and Wastewater Treatment in Central MD
	+ Licensed by MD Department of the Environment (MDE)
* Mission
	+ Provide clean drinking water to clients
	+ Treat wastewater
	+ Discharge a clean product at a controllable point source to reduce Chesapeake Bay pollution
* Water Treatment
	+ PH adjustment with Chemical addition
		- Sodium Hydroxide (Caustic Soda)
	+ Disinfection
		- Sodium Hypochlorite (Chlorine)
		- UV Light
	+ Monitored Nutrient Contaminants
		- Nitrates
		- Bacteria (Total Coliform, Fecal Coliform, E.Coli)
		- Heavy Metals (Lead and Copper)
* Wastewater Treatment
	+ Activated Sludge Process
	+ Treatment Stages
		- Raw Influent
			* pH Stabilization and grit removal
		- Mix
			* Denitrification
		- Aeration
			* Renitrification and Ammonia Removal
		- Clarification
			* Separation of solids from clear water
		- Disinfection
			* UV Light
			* Chlorination then dechlorination before discharge
		- Treated Effluent
			* Stream Discharge
			* Ground Discharge
	+ Monitored Nutrient Contaminants and Parameters
		- pH
		- Dissolved Oxygen
		- Nitrates
		- Ammonia
		- Biochemical Oxygen Demand
		- Total Suspended Solids
		- Phosphorous
		- Bacteria
* Microscope Activity
	+ Locate and Identify Microorganisms used in Wastewater Treatment
		- Ciliates
			* Stalked
			* Free Swimming
		- Rotifers
		- Flagellates
* Discussion