BOD stands for	Biological Oxygen Demand
TSS stands for	Total Suspended Solids
This term is used to describe the amount of oxygen consumed by a specific quantity of organic matter. It can also be thought of as a bulk measurement of all the biologically degradable organic matter in the water.	Biochemical Oxygen Demand or BOD.
This group of bacteria obtain their carbon (food) by eating other organisms and organic matter	Heterotrophs
Heterotrophic literally translates as	Other Feeder -- these bacteria get their carbon from eating other bacteria or organic matter

Autotrophic bacteria obtain their carbon from this source	Inorganic forms of carbon such as carbon dioxide and the carbonate ion
Autotrophic literally translates as	Self Feeder -- this group of bacteria gets its carbon from inorganic sources like carbon dioxide and carbonate. They can't eat BOD.
Can autotrophic bacteria consume BOD?	No. These bacteria get their carbon from inorganic sources only.
Bacteria are classified by their oxygen requirements. This group of bacteria must have dissolved oxygen (DO) to live.	Obligate Aerobes
Bacteria are classified by their oxygen requirements. This group of bacteria will use dissolved oxygen if it is available, but can also get oxygen from nitrate or sulfate.	Facultative Bacteria

Bacteria are classified by their oxygen requirements. This group of bacteria are poisoned by oxygen. They don't want any dissolved oxygen, nitrate, or sulfate around.	Anaerobic Bacteria
The group of specialized bacteria that convert ammonia to nitrate are the:	Nitrifiers or Nitrifying Bacteria
This bacteria is responsible for converting ammonia to nitrite:	Nitrosomonas
This bacteria is responsible for converting nitrite to nitrate:	Nitrobacter
The nitrifying bacteria, Nitrosomonas and Nitrobacter, must have dissolved oxygen to live. This makes them:	Obligate Aerobes

The nitrifying bacteria, Nitrosomonas and Nitrobacter, don't consume BOD. Instead, they get their carbon from inorganic sources. This makes them:	Autotrophs
Bacteria come together in the activated sludge process to form clumps called:	Flocs
This term describes the process when smaller particles bump into and collide with one another to form larger particles.	Agglomeration or Bioflocculation
MLSS stands for	Mixed Liquor Suspended Solids
MLVSS stands for	Mixed Liquor Volatile Suspended Solids

Mixed Liquor Volatile Suspended Solids (MLVSS) is used to estimate this:	The mass of active microorganisms in the activated sludge process
This term describes an environment where dissolved oxygen is plentiful	Aerobic
This term describes an environment where dissolved oxygen concentrations are very low or zero, but where nitrate is present	Anoxic
This term describes an environment where neither dissolved oxygen nor nitrate is available	Anaerobic
Facultative bacteria in the activated sludge process can "breathe" nitrate when oxygen is not available. This process is called:	Denitrification

This common atmospheric gas is the byproduct of denitrification	Nitrogen Gas
BTU stands for	British Thermal Unit
This term is used to describe the amount of heat required to raise 1 pound of water by 1 degree Fahrenheit	BTU or British Thermal Unit
This term is used to describe the mixture of bacteria, protazoans, filaments, and other organisms present in the activated sludge basin	Mixed Liquor Suspended Solids (MLSS) or "bugs"
Chlorine Demand	The amount of chlorine used up or consumed by the wastewater.

Chlorine Residual	The amount of chlorine that can be measured after the demand has been satisfied. When chlorine is added to water, some gets used up right away. This is the demand. What's left over is the residual. We can measure the residual with a bunch of different lab tests.
Chlorine Dose	The total amount of chlorine added to the water. DOSE = Demand + Residual
This term is used to describe unstabilized solids, undigested solids, and MLSS before it leaves the WWTP	Sludge
This term is used to describe excess solids from the treatment process that have been stabilized through digestion or other process.	Biosolids
This calculation describes the settleability of activated sludge	Sludge Volume Index or SVI

The Sludge Volume Index (SVI) is expressed in these units:	milliliters per gram (mL / g) It is calculated by taking the settled sludge volume at 30 minutes (SSV30), multiplying by 1,000, and dividing by the mixed liquor concentration in mg/L.
When the Sludge Volume Index (SVI) is greater than 200 mL/g, this technical term describes its settleability	Bulking
NPDES stands for	National Pollutant Discharge Elimination System
OSHA stands for	Occupational Safety and Health Administration or Act
This term describes the formation of an air bubble or bubbles inside a pump. When the bubbles collapse, they can damage the impeller or pump housing.	Cavitation

Disinfection effectiveness is monitored by testing for fecal coliforms and e. coli. We look for them because they are easy to analyze for, are present in larger quantities than the target organisms, and are associated with contamination by fecal matter. This term describes their function:	Indicator Organism
This method is used for testing residual chlorine levels.	DPD Method. DPD stands for N,N-diethyl-p-phenylenediamine
Denitrification is the conversion of	Nitrate to nitrogen gas
Nitrification is the conversion of	Ammonia to Nitrate This is a two step process. Ammonia to nitrite followed by nitrite to nitrate.
This term describes either: The amount of time to fill a tank. The amount of time to drain a tank. The average amount of time water spends in a tank when water is both entering and leaving the tank.	Hydraulic Retention Time or Detention Time

Define Eutrophication	Accumulation of nutrients -- nitrogen and phosphorus -- in the environment. Usually refers to a lake or river.
A pump is used to move water uphill a certain distance. This term is used to describe the amount of force the pump must pump against due to gravity.	Static Head
A pump is used to move water uphill a certain distance. This term is used to describe the resistance caused by pushing water through valves and changes in direction.	Friction Head
A pump is used to move water uphill a certain distance. This term is used to describe the resistance caused by water rubbing on the inside of the pipe.	Velocity Head
TDH stands for	Total Dynamic Head

Total Dynamic Head (TDH) is the sum of these three types of head loss in a pumped system	Static Head, Friction Head, and Velocity Head
Compare Disinfection to Sterilization	Disinfection reduces the total number of bacteria and pathogens present. Sterilization kills all bacteria and pathogens.
This term describes the amount of organic matter (BOD) available per microorganism in the activated sludge process	Food to Microorganism Ratio
Bacteria in the activated sludge process grow in these two basic ways	Floc Formers Filament Formers
This type of sample is collected as a "dip and take" or single discrete aliquot	Grab Sample

To create this type of sample, multiple samples are collected and then combined together in the same sample bottle	Composite
Define Flow Proportional Composite Sample	Multiple aliquots are collected throughout the day. The size of each aliquot is adjusted based on the amount of flow entering the plant at the time of collection. The flow adjusted samples are then combined to form a single larger sample.
Total Solids (TS) entering a treatment plant can be separated by filtration into these two components:	Suspended Solids or Residue and Dissolved Solids
Total Solids (TS) entering a treatment plant can be separated by heating at 550 degrees into these two components:	Volatile Solids and Non-Volatile Solids Volatile Solids are assumed to be either live bacteria or organic matter. Non-volatile solids consist of things like grit, sand, egg shells, metal salts, and other things that don't break down.
If a sample is collected for total solids and is then heated to 550 degrees, what fraction will remain at the end of the test? Volatile or Non-volatile?	Non-Volatile. All of the volatile stuff burned away during the test.

Grit is typically disposed of by	Domestic Garbage or Landfilling.
Screenings are typically disposed of by	Domestic Garbage or Landfilling.
IDLH stands for	Immediately Dangerous to Life or Health
Total Inorganic Nitrogen or TIN consists of these three components	Ammonia, Nitrite, and Nitrate
Total Kjeldahl Nitrogen consists of these two components	Organically bound nitrogen and ammonia

MCRT stands for	Mean Cell Residence Time
SRT stands for	Solids Residence Time
Mean Cell Residence Time (MCRT) is defined as	The amount of time that the "Average" bug spends in the activated sludge process before being wasted out of the system. Typically expressed in days.
Mean Cell Residence Time is calculated by:	Dividing the total pounds of MLSS in the system by the total pounds of MLSS leaving the system. MLSS is in the system in the activated sludge tanks and in the clarifiers. MLSS leaves the system as WAS and as effuent suspended solids.
What is the primary difference between MCRT and SRT?	SRT does not include the MLSS in the clarifiers.

Velocity is defined as	Flow per area (gallons per square foot) OR Distance per time (miles per hour)
SOR stands for	Surface Overflow Rate
The surface overflow rate for a clarifier is calculated by	Dividing the total flow entering the clarifier by the surface area of the clarifier. Expressed as gallons per day per square foot (gpd/sf)
This term is used to describe the film or slime layer that grows on a trickling filter or rotating biological contactor	Biofilm. The term zooglea is sometimes used, but is not technically correct.
This term is used to describe the loss of biofilm from a trickling filter or rotating biological contact. It is a normal part of biofilm growth.	Sloughing

MPN stands for	Most Probable Number
CFU/100 mL stands for	Colony Forming Units per 100 milliliters
The OUCH Principal for management says that	When managers delegate tasks, they should be O - Objective U - Uniform in treatment of employees C - Consistent with utility policies H - Have job relatedness
POTW stands for	Publically Owned Treatment Works Another term for wastewater treatment plant. See also Wastewater Treatment Facility Water Reclamation Facility
Bacteria, viruses, and protozoans that can cause illness in humans are all:	Pathogens

Digesters can be run at different temperatures. Unheated digesters are termed:	Psychrophilic Psychro = cold Philic = love Literally cold loving
Digesters can be run at different temperatures. Most are heated to run at 95 degrees Fahrenheit. They are termed:	Mesophilic Meso = middle Philic = love Literally middle loving Most anaerobic digesters are run in the mesophilic range.
Digesters can be run at different temperatures. Digesters that are heated to run at high temperature with short solids retention times are termed:	Thermophilic Thermo = heat Philic = Love Literally heat loving.
Anaerobic digesters take advantage of these two main groups of bacteria	Acid Formers Methane Formers
Trickling Filters, Rotating Biological Contactors, and Recirculating Sand Filters are all examples of	Fixed Film Processes