

Chapter 2: Why Treat Wastes?

To prevent pollution from reaching downstream users of water.



King County
DNRP/WTD



Sacramento State
Redefine the Possible

(Revision 1, JAN 2019)



Words



LIFE



Words

ORGANIC WASTE

Waste materials that come from animal or plant sources that can be consumed by bacteria or other small organisms.

INORGANIC WASTE

Waste materials such as sand, salt, iron, calcium, and other minerals “chemical substances of mineral origin”.



Words

Pathogenic Organisms



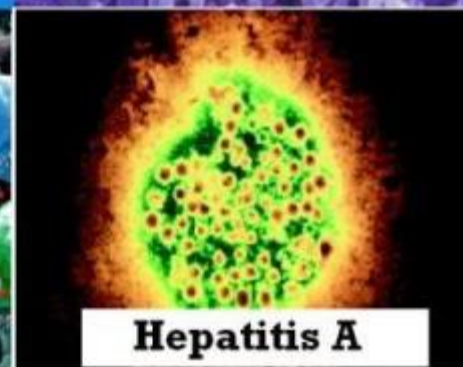
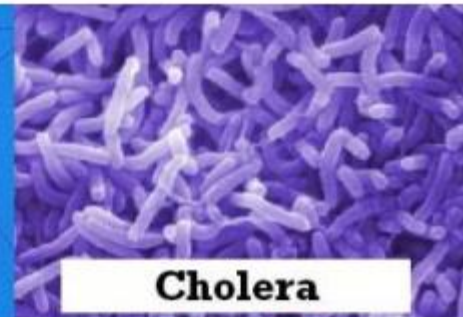
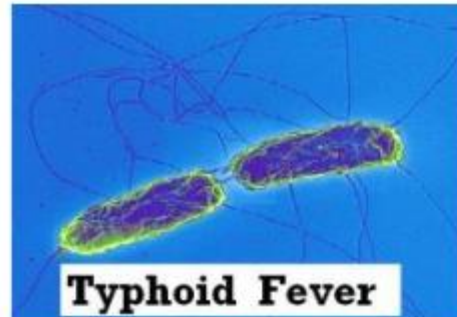
Bacteria, viruses, cysts, or protozoa that can cause disease.

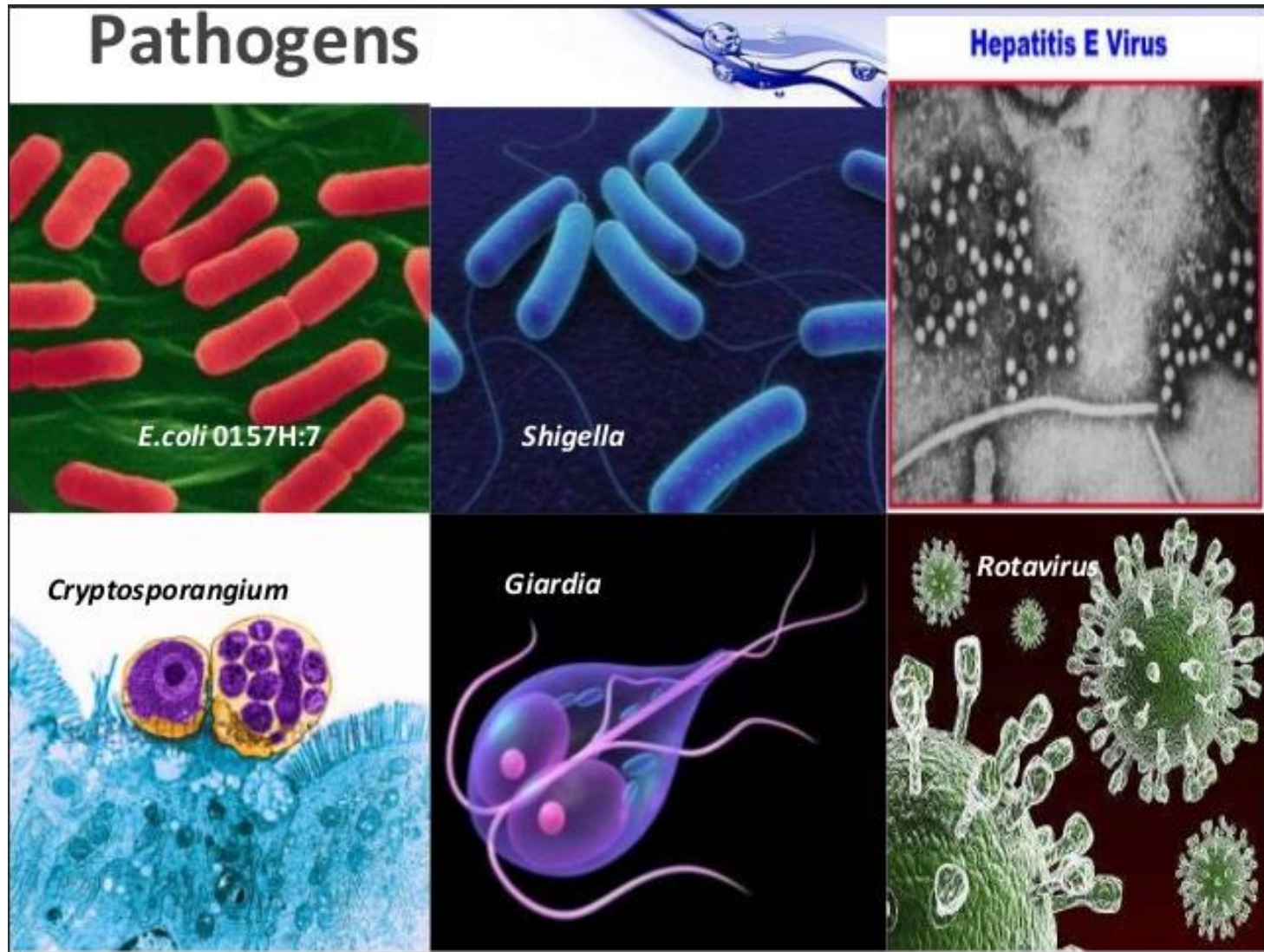


Inadequate Treatment

Waterborne pathogens

are mainly a product of improperly treated human waste





Safety Tips

After visiting a
treatment Facility
always....



Solids in Wastewater

- Analytically the total solids content of a **wastewater** is defined as all the matter **that remains** as residue upon evaporation at **103 to 105°C**.
 - Composed of:
 1. Floating matter.
 2. Settleable matter.
 3. Colloidal matter.
 4. Matter in solution.



TDS

What makes up "Total Dissolved Solids"?	
Commonly Found	Less Common
Calcium	Strontium
Carbonate	Barium
Bicarbonate	Thallium
Nitrate	Arsenic
Phosphates	Lead
Sodium	
Sulfate	
Chloride	
Iron	
Manganese	
Magnesium	
Aluminum	



TSS

TOTAL SUSPENDED SOLIDS (TSS)

TSS is the measure of the sediment suspended in the water.

TSS is related to turbidity.

Water with high TSS usually has high Total Dissolved Solids (TDS) as well.



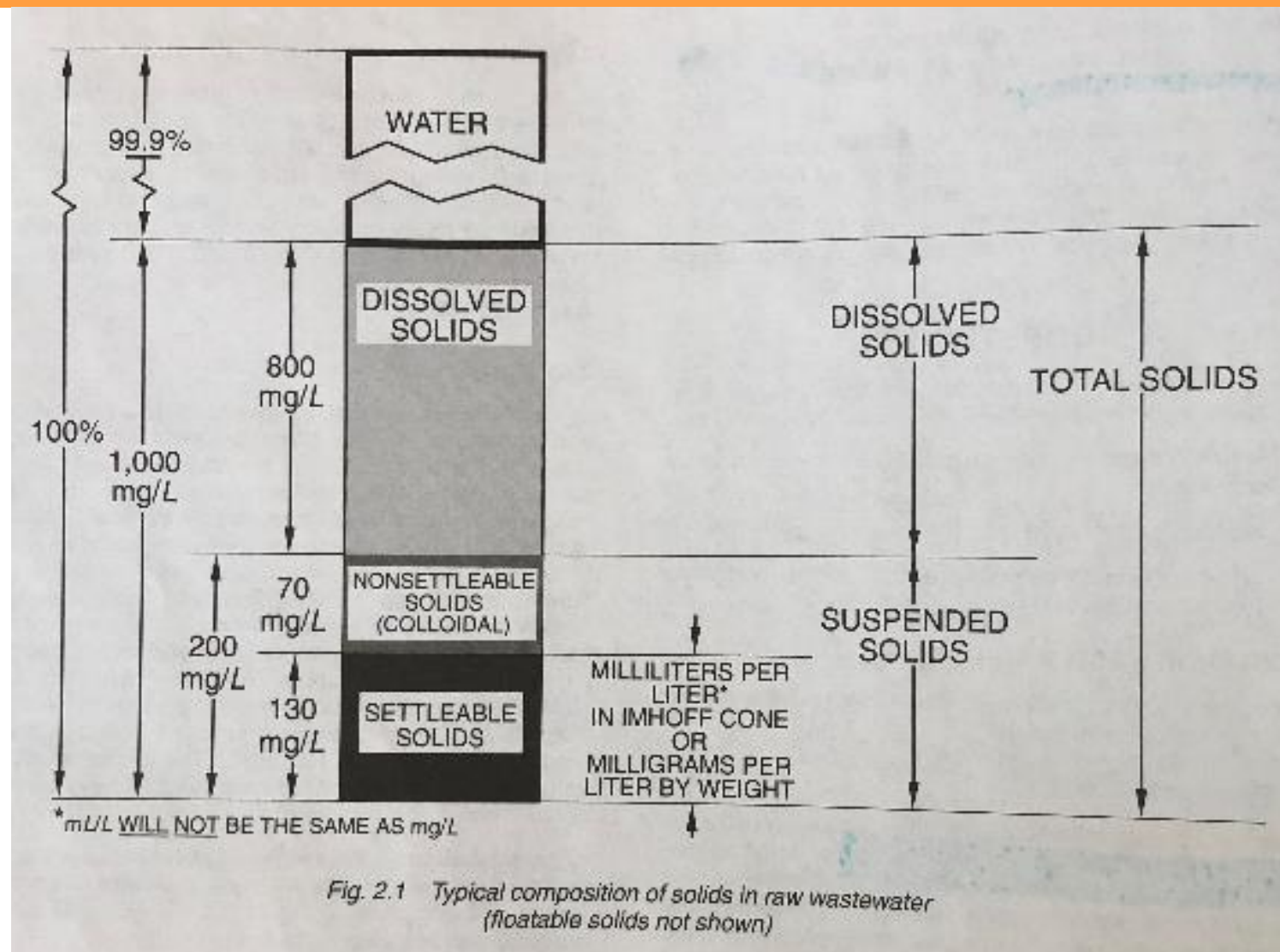


Fig. 2.1 Typical composition of solids in raw wastewater (floatable solids not shown)

