Example:

3 sets of test tubes, each sets have 5 test tubes

Set 1 – has 10 ml of sample; 5 test tube is positive

Set 2- has 1 ml; 3 test tube is positive

Set 3 – 0.5 ml; 1 test tube is positive

531 –110 MPN/100 ml of the sample, this amount is the approximate amount of the bacteria in the sample

3. Direct Microscopic Count



and drop in a trast side, cover it with a cover slip

-cover slip/glass is special because it has gridlines

- after the bacterial suspension is added cover it with cover glass with the gridlines and viewed in a microscope

-under the microscope you can find the large squares and count the number of colonies present (14 bacterial cells)

-to compute the number of bacteria cells:

Get the concentrations of last inoculum

Example: 1/1,250,000 concentration X (14) bacterial cells that you have count = 7,500,00 cell/ml

Estimating Bacterial Numbers by

Indirect Methods

- test the number of bacteria by observing:

1. Turbidity - cloudy test tube

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-have bacterial growth, after that it is subjected to spectrophotometry or colorimeter

- if little can pass through the light to the bacterial suspension therefore less light can reach the detector

-more turbid the solution - higher absorbance value

-10- 100 million cells per ml need to make the suspension turbid, enough to read in the spectrophotometry

2. **Metabolic activity** assures the amount of a certain metabolic product such as acid, CO2 is proportion to me number bacteria is present

count the metabolic product that organism produce = the number of bacteria

3. Dry weight – use in filamentous bacteria and molds

- remove the bacteria in a culture, let it dry and after weigh it

-by weighing you can determine the number of bacteria

