wall if its a gram positive (peptidoglycan wall) causing them to die. [Penicillin is usually used to treat Gram positives]

- Another gram positive bacteria is Bacillus anthracis which causes the disease anthrax and is treatable with penicillin again.
- Some examples of gram negatives are Hemophilus influenzae and the other is Yersinia pestis [black death]. Both these gram negative bacteria are treatable with the **tetracycline class of antibiotics.**

By Nutritional Requirements

- The ability to be able to identify a set of different bacteria to determine whether they will have an impact on us or not.
- Demonstration of the presence of the coliform bacteria is detected using the broth which contains [beef extract, peptone [protein digest which contain loads of amino acids] and Lactose [milk sugar]]. Add the sample to this broth which then results in fermentation and gas production which confirms the test of the presence of the Coliform Bacteria and can then determine the coliform count in drinking water.

Classification by Sequence

- Sequences are constantly changing and is now used to classify bacteria. Can be separated on the basis of the bacterias DNA sequence. The ribosomal RNA is read off the DNA sequence. Ribosomal RNA is used in protein synthesis and is a highly conserved sequence.
- Copro- feces
- OP10, OP8, WS1 etc are bacteria that are known as crypto-biota. Scientists know they exist due to their ribosomal RNA sequence but can't grow them.
- More and more sequences are found in archaea in soil even though they are meant to grow in hot springs.
- Isolating bacteria in mines from rock faces that you can't grow but can see the DNA sequence. Known as chemotrophs.
- Another aspect or issue with crypto-biota is the identification of new potential antibiotics isolated from the soil (isolated from the crypto-biome which no one knew existed) and is important in antibiotic resistance in bacterial population.

Bacteria