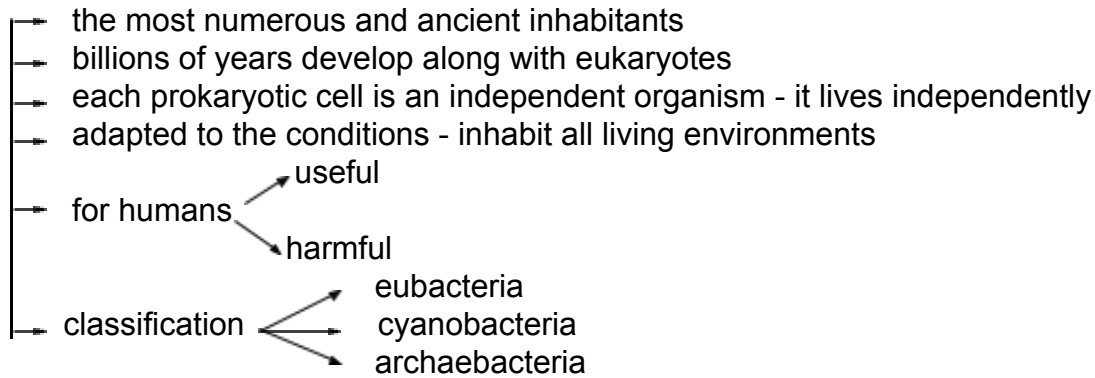


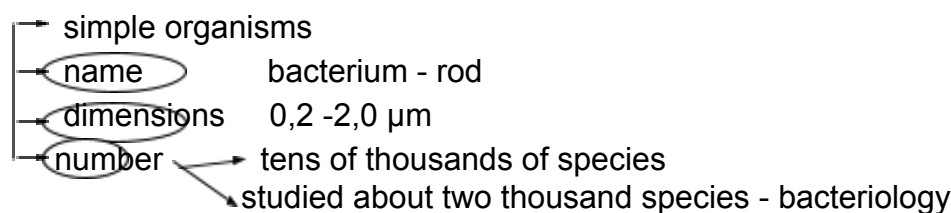
Prokaryotic cells – Bacteria

I. Introduction

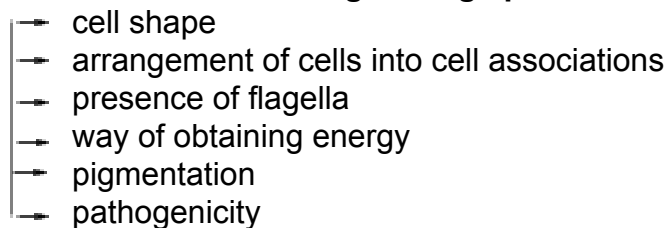


II. Eubacteria

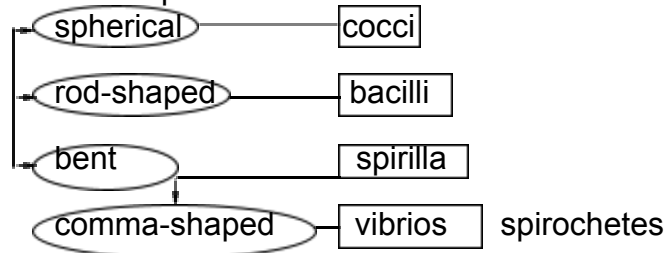
1. Characteristics



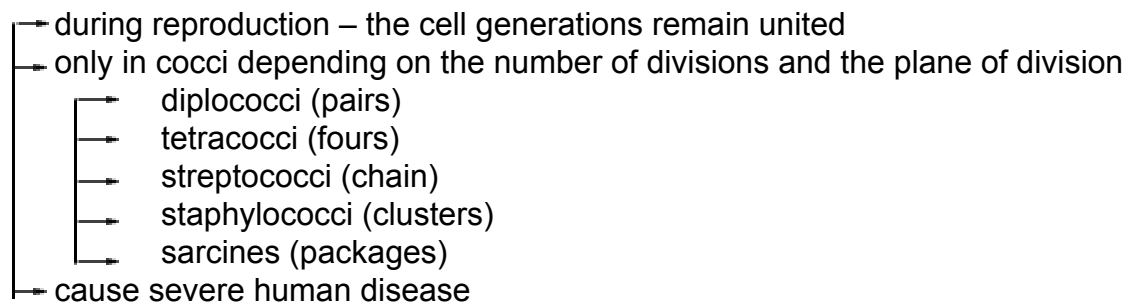
2. Indicators for distinguishing species



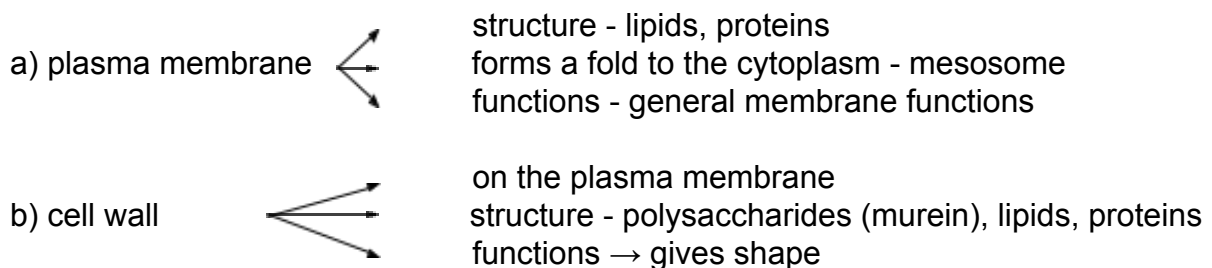
3. Cell shape



4. Cell associations



5. Bacterial cell structure



→ protective function

- c) capsule
- in many bacteria
 - above the cell wall
 - function - protective
 - device – polysaccharides

d) the bacterium has no nucleus (prokaryotes)

- e) bacterial chromosome
- 1 molecule of DNA called a **nucleoid**
 - double-stranded, ring-shaped
 - immersed in the cytoplasm

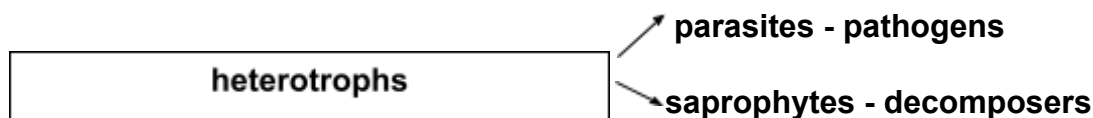
f) there are no membrane structures - neither one nor two-membrane

- ж) ribosomes
- structure - like eukaryotic
 - size - very small
 - number - very large (up to 40%) of the cell mass

- h) plasmids
- small ring-shaped DNA molecules
 - 2-3 genes
 - provide resistance to some antibiotics

6. Life processes

6.1. Nutrition



6.2. Respiration

→ enzymes that break down organic matter

→ get material, energy

→ species

heterotrophs - aerobes need oxygen

heterotrophs - anaerobes break down organic matter in an oxygen-free environment

6.3. Reproduction

One generation lives 20-30 minutes - grow and divide by simple division in the middle zone - mesosome

a) essence

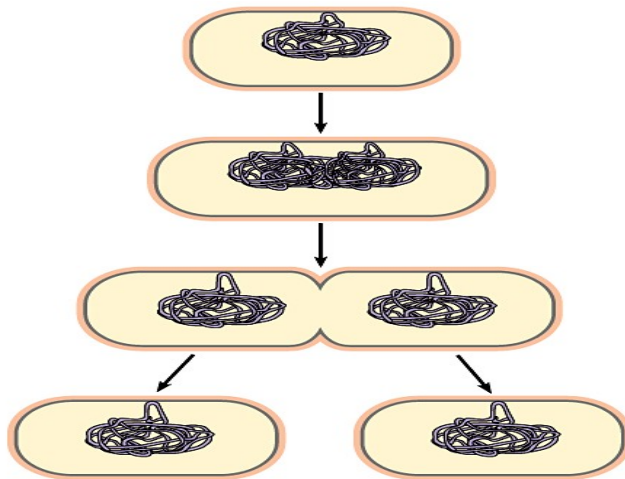
- the cell lengthens
- the chromosome attaches to the plasma membrane in the middle zone - the mesosome
- from the point of attachment - duplication of DNA
- cell elongation - the two new chromosomes separate
- barrier formation (from the plasma membrane and the cell wall)

b) conditions

- availability of nutrients
- oxygen
- heat
- moisture

(c) reproductive inhibitors

- antibiotics
- UV rays
- low temperatures

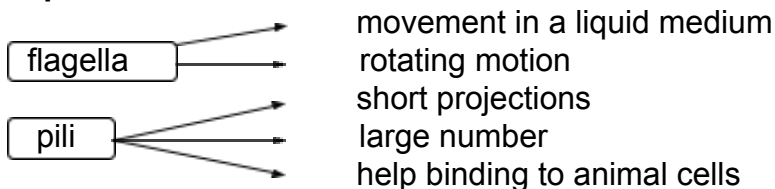


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7. Archaeobacteria - exist in extreme conditions

- vacuum
- acid solutions
- at a temperature of + 90 ° C
- highly concentrated NaCl solution

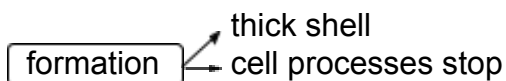
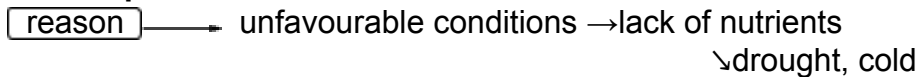
8. Optional structures



9. Significance of frequent reproduction

- the hereditary programme changes greatly under the influence of the environment - mutations occur and a new type of bacteria is formed
- quick adaptation
- fighting them is difficult

10. Endospores



viability of spores

- spore formation is not a form of reproduction, as only one spore is formed from one bacterium

11. Methods of destruction

