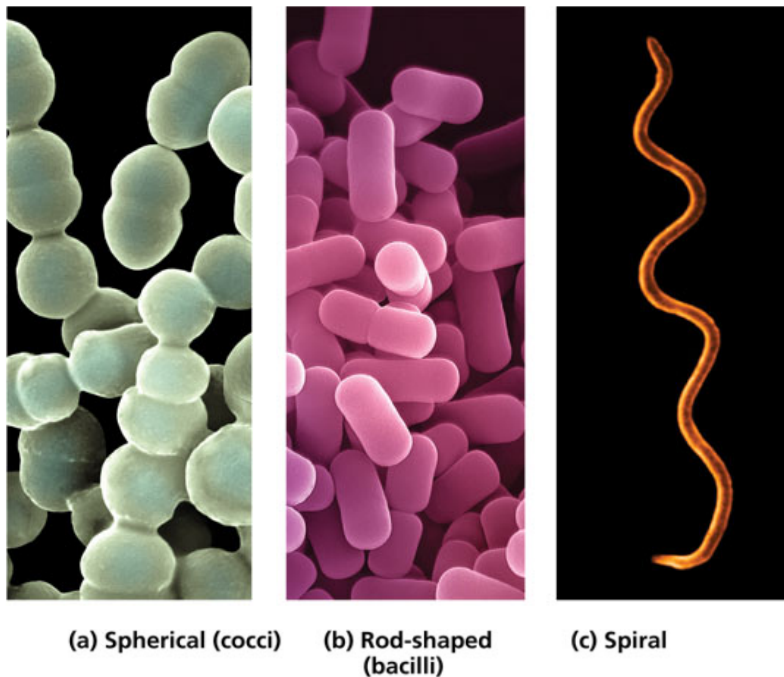


# Kingdom Monera

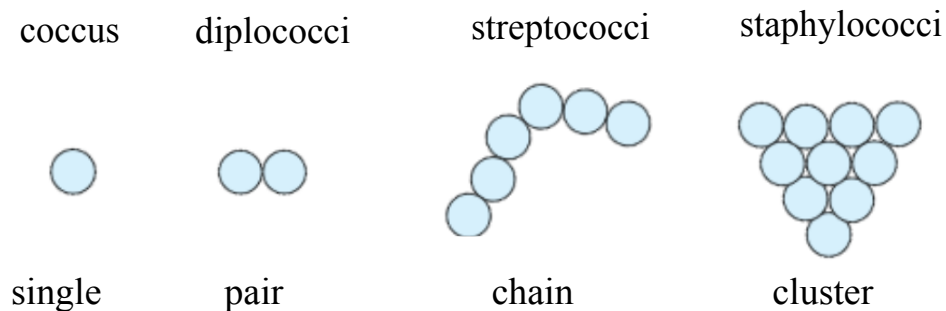
Monerans are the oldest and most abundant living organisms known to date. They include all bacterial types and some photosynthetic and chemosynthetic organisms.

Most bacteria have one of three basic shapes:

1. cocci (singular: coccus) -> spherical
2. bacilli (singular: bacillus) -> rod-shaped
3. spirilla (singular: spirillum) -> spiral



## Arrangement of Cocci



coccus- Streptococcus pyogenes caused rheumatic fever and most strep throat infections

Staphylococcus aureus- normally a harmless occupant of a persons skin is a major cause of infections in burn units and other hospital based infections

Neisseria gonorrhoea- causes gonorrhoea

Bacillus

Bacillus anthracis- causes anthrax a potentially fatal disease

Clostridium botulinum- causes botulism in incorrectly canned food

Clostridium tetani- causes tetanus or lockjaw

Clostridium perfringens- causes gas gangrene

Spirillum

Most spirillum are harmless...with one notable exception:

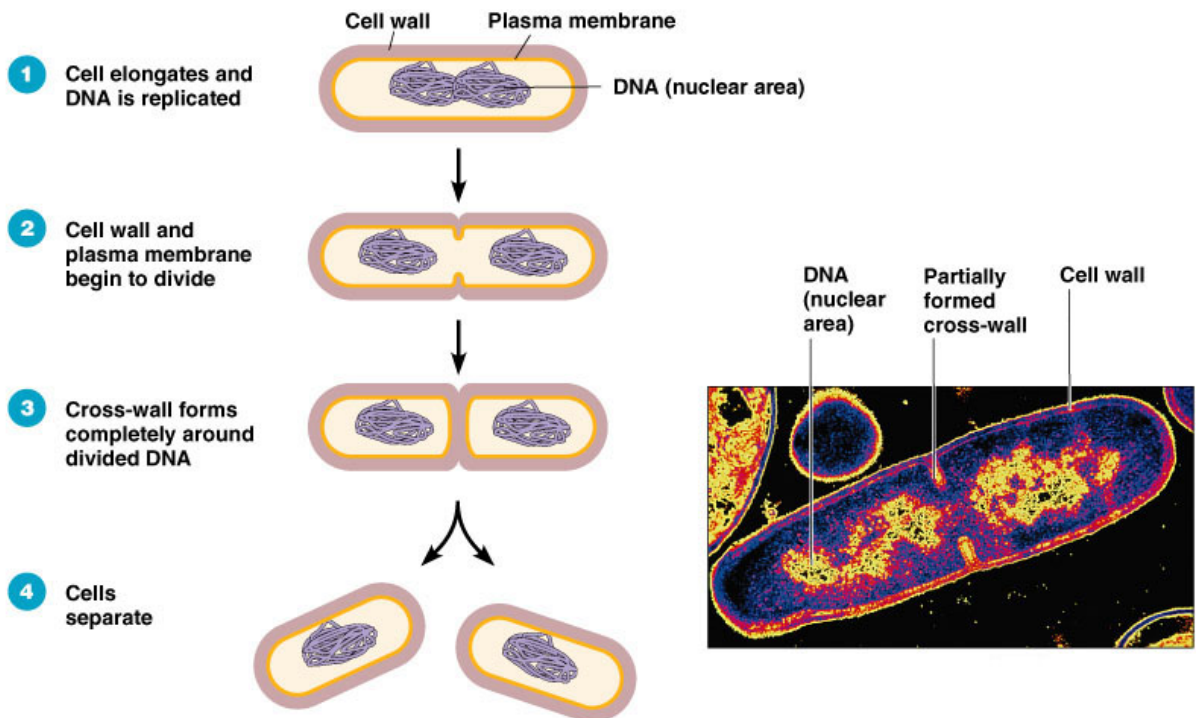
Treponema pallidum- causes syphilis

Bacteria can be grouped according to respiration.

1. obligate aerobes - bacteria that require oxygen for respiration  
(*Mycobacterium tuberculosis*)
2. obligate anaerobes - bacteria that conduct respiration processes  
in the absence of oxygen
3. facultative anaerobes - bacteria that can survive with or without  
oxygen  
- majority of bacteria fit into this group

Biology 112  
Monerans - Reproduction

1. binary fission (splitting in two) - asexual reproduction



**(a)** A diagram of the sequence of cell division.

**(b)** A thin section of a cell of *Bacillus licheniformis* starting to divide.

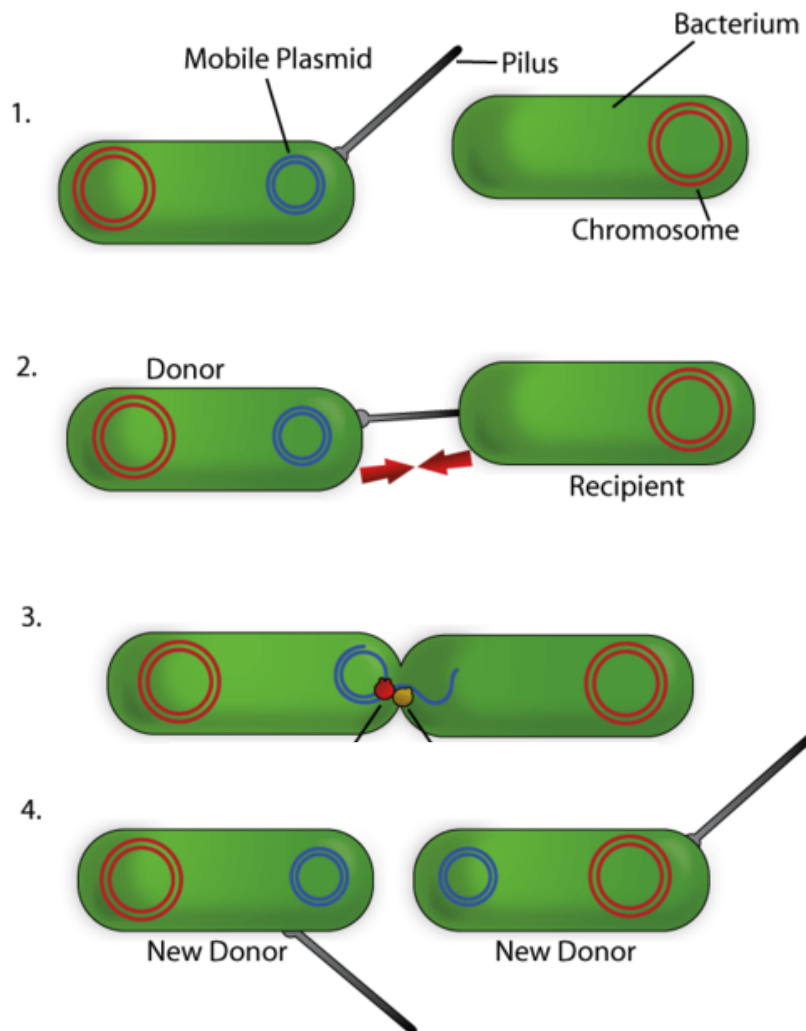
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<http://www.youtube.com/watch?v=J6akNYlkehY>

2. conjugation- "sexual reproduction"

pilus - cytoplasmic bridge

plasmid - small ring of genetic material



## Mitosis - Page 246

Review on your own time

## Meiosis - Page 276

112 Worksheets - 19-1 READING ASSIGN p 16-19  
19-3 Section review  
Nelson Case study p 430