Life Sciences 11 **Microbiology: Bacteria Basics** Name: Date:

**Introduction**

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found almost everywhere on Earth - they live anywhere that life can physically survive
* They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - their importance cannot be overestimated
* They also cause some of our major diseases

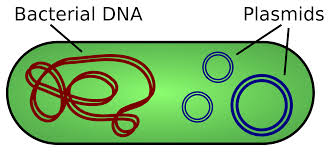
**Taxonomy**

* Recall that there are 3 domains:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: prokaryotic cell; “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” bacteria
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: prokaryotic cell; ancient bacteria, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Eukarya: eukaryotic cells

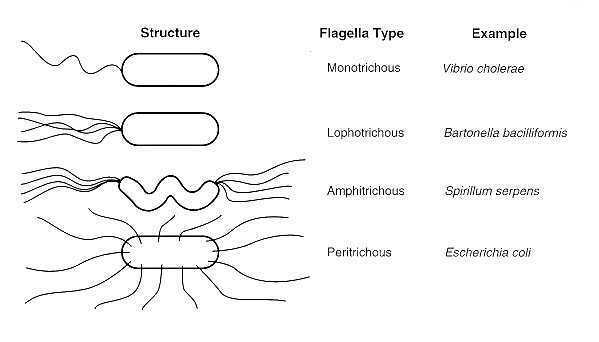
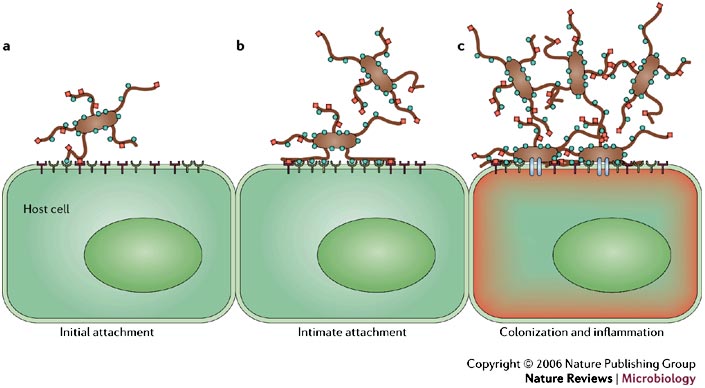
**Domain Bacteria - Kingdom Eubacteria**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; just visible with a light microscope

General structures:

* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (not like a plant! It's made out of ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** not cellulose!)
* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (protective layer, decides what goes in/out)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ("jelly")
* A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Ribosomes (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

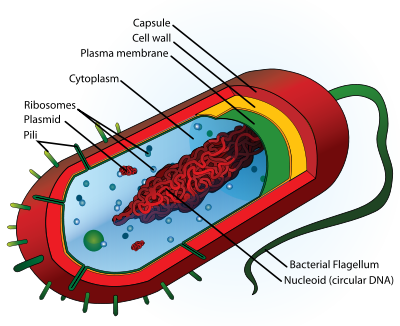
Other Structures:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ separate from the chromosomal DNA which can replicate independently and be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between bacterial cells
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Pili
  + Used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, in

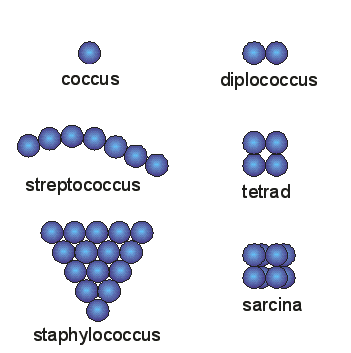
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from one cell to another, small

movements and cell-cell adhesion

* Capsule
  + These are non-protein \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ outside of a bacteria cell
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Endospores are tough coated structures that contain a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Endospores can remain dormant waiting for more favourable growth conditions

**Typical Prokaryotic Cell**

**Form and Arrangement**

* Form: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the bacteria
* Arrangement: how the bacteria are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Forms and Arrangement

**FORMS:**

**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Cell form (shape) is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

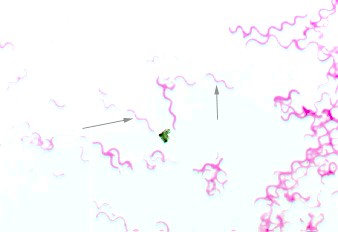
**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Cells are longer than wide (\_\_\_\_\_\_\_\_\_); typically solo, in pairs or chains



**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Longer than wide and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Most are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and in a single arrangement



**Can you …**

… state the classification of bacteria and why?

… describe the structures of bacteria?

… describe the form and arrangement of bacteria?