

BACTERIA NOTES

Chapter 20

KINGDOMS OF BACTERIA

Bacteria are classified into two SEPARATE kingdoms

1. _____ are found in extreme habitats.

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2. _____ are found in many different habitats.

There are three types of Eubacteria:

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BACTERIA

- Bacteria are the _____ and the most _____ organisms on the planet.
- Bacteria were the first organism to exist on the planet.
- Now they are also the _____ organisms due to humans genetically engineering them.

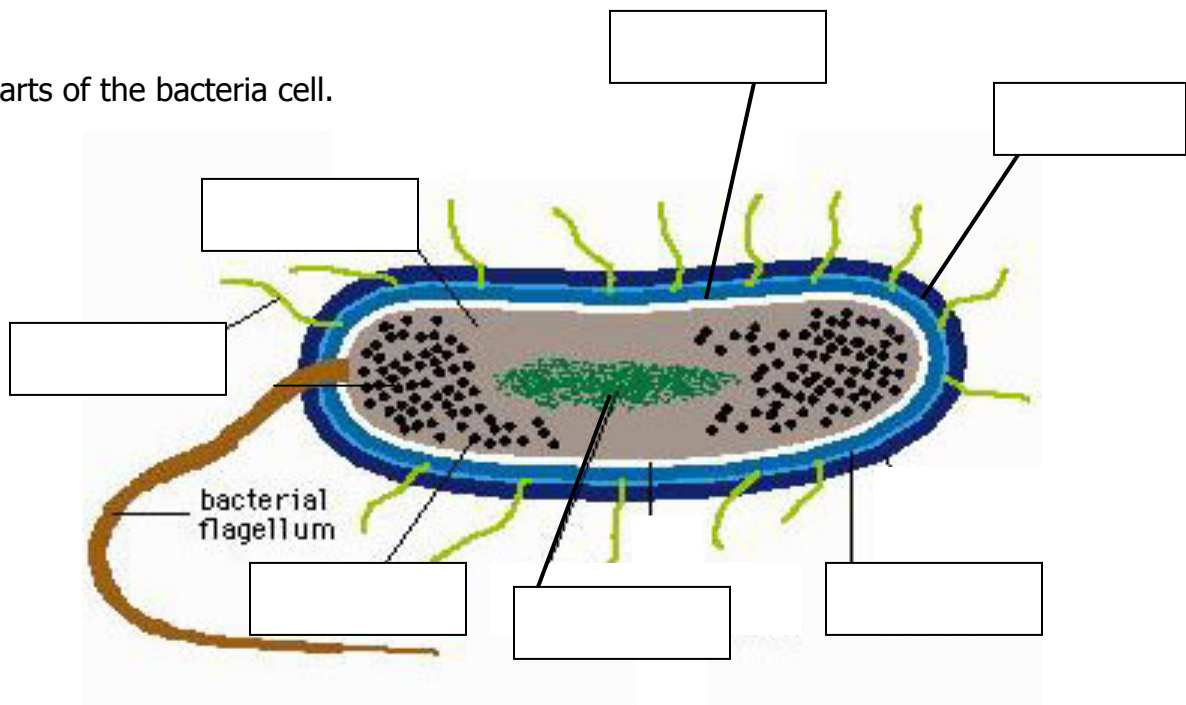
NUTRITION

- Most bacteria are _____ – they use food produced by _____.
- Some are _____ - they produce their _____.
_____ : use sunlight as a source of energy
_____ : use energy from chemical reactions to make food.
- What are saprobes?

BACTERIAL PARTS

- A bacterial cell is a prokaryotic cell. Therefore it does not have a nucleus. However, it does have a _____, _____, _____, and _____.
- Some bacterial cells also have a _____ which is a protective coating.
- In addition to this, some have flagella to move and pilus (pilli) for grabbing.

Label the parts of the bacteria cell.



SHAPE OF BACTERIAL CELL

Bacterial cells are usually classified by the _____.

- Coccus (cocci) : _____
- Bacillus (bacilli) : _____
- Spirillum (spirilli) : _____

ARRANGEMENT OF BACTERIAL CELLS

- Colonies are groups of bacterial cells together in one spot. Colonies of bacteria have specific names depending on their shape and arrangement.
- _____ = _____
ex.) diplococcus-

- _____ = _____

ex.) staphylococcus -

- _____ = _____

ex.) streptococci -

TWO TYPES OF BACTERIAL REPRODUCTION

1. Binary Fission:

- Is a type of _____.
- Each cell receives one copy of the chromosome.
- The daughter cells are identical to the _____.
- Under ideal situations a bacteria cell can reproduce every _____.

Steps of Binary Fission

- The bacteria's _____ is replicated.
- The bacteria cell grows in size and the _____.
- When the cell divides each new cell will receive one copy of the chromosome.

2. Conjugation

- Is a type of _____.
- During conjugation two bacterial cells exchange genetic material (____ _).

Steps of Conjugation

1. Bacterial cells exchange DNA across the bridge or _____.
2. The new DNA replaces the old DNA. Why is this not a true form of sexual reproduction?

RAPID REPRODUCERS

- Bacteria can reproduce every _____ to _____ minutes in a warm, moist environment.
- What stops bacteria from constantly reproducing?

SPORE FORMATION

- When faced with difficult conditions many bacteria will form spores.
- Endospores contain a copy of the bacteria's DNA. This DNA is surrounded by a _____.
- Some endospores can survive for years in unfavorable conditions.
- Later, when the conditions are favorable the endospore will begin to grow and divide.

IMPORTANCE OF BACTERIA

- Digestion:
- Food production:
- Medicine production:
- Ecological decomposers:
- Cause disease:

METHODS FOR KILLING BACTERIA

- Antiseptics –
- Disinfectants –
- Antibiotics -

Check For Understanding

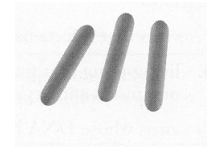
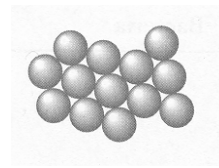
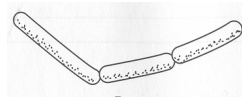
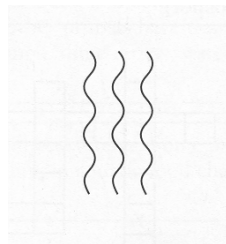
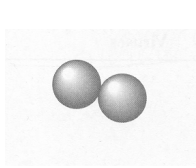
1. Draw a picture below each of the following shapes of bacteria:

Coccus

Spirillum

Bacillus

2. Write the name of each bacterium below its picture. If you cannot determine the arrangement, write the name of the shape below the picture.



3. Explain how a chemoautotroph obtains its energy.
4. Why does an endospore have thick wall surrounding the DNA of the bacteria?
5. Give an example of a disinfectant you might use in your house. Explain why you would use this rather than an antibiotic.
6. What are the differences between a bacteria cell and your cells?