

# Aim

To study different **morphological forms of bacteria** using **electron microphotographs/models**.

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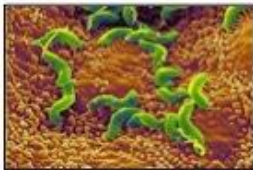







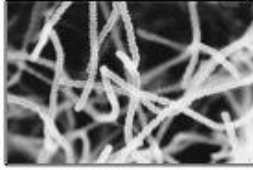
## Requirements

- Electron microphotographs or charts showing bacterial shapes
  - Prepared models (if available)
  - Pointer/labels for identifying forms
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## Principle

Bacteria show a variety of shapes and arrangements due to differences in their cell wall structure and modes of division. Observing these under **electron microphotographs** helps identify and classify them into basic morphological types.

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Circular	Rod-shaped	Curved Forms	Other Shapes
 Diplo- (in pairs)	 Coccobacilli (oval)	 Vibrio (curved rod)	 Helicobacter (helical)
 Strepto- (in chains)	 Streptobacilli	 Spirilla (coil)	 Corynebacter (club)
 Staphylo- (clusters)	 Mycobacteria	 Spirochete (spiral)	 Streptomyces

# Bacterial Forms – Scientific Yet Fun Perspective

## 1. Circular (Cocci) – The “Shape-Shifters of Friendships”

- **Diplococci** – Like best friends who always hang out in pairs (*Neisseria gonorrhoeae*).
  - **Streptococci** – Think of a pearl necklace, with each pearl being a bacterium (*Streptococcus pyogenes*).
  - **Staphylococci** – Like grapes in a bunch (*Staphylococcus aureus*).  
💡 *Fun fact:* The “staph” bacteria on our skin are usually harmless, but if they get into a wound – trouble begins!
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## 2. Rod-shaped (Bacilli) – The “Straight Talkers”

- **Coccobacilli** – Not fully round, not fully rod – like an oval egg (*Haemophilus influenzae*).
  - **Streptobacilli** – Rods that love to hold hands in a line (*Bacillus anthracis* – the anthrax bug).
  - **Mycobacteria** – The wax-coated bacteria – think of them as “raincoat-wearing” because their cell wall is rich in mycolic acid (*Mycobacterium tuberculosis*).  
💡 *Fun fact:* TB bacteria can survive in the body for years without causing symptoms – it’s like they’re hibernating.
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## 3. Curved Forms – The “Waves and Spirals”

- **Vibrio** – Comma-shaped, looks like a banana (*Vibrio cholerae*).
  - **Spirilla** – Spiral staircase with rigid turns (*Spirillum volutans*).
  - **Spirochetes** – Flexible corkscrews, the gymnasts of the bacterial world (*Treponema pallidum* – syphilis).  
💡 *Fun fact:* Spirochetes can twist and move through viscous fluids, like a fish swimming through honey.
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## 4. Other Shapes – The “Oddballs”

- **Helicobacter** – Spiral like a stretched spring (*Helicobacter pylori* – stomach ulcer culprit).
- **Corynebacter** – Club-shaped, like a drumstick (*Corynebacterium diphtheriae*).
- **Streptomyces** – Long, thread-like branches; they smell like wet soil after rain because they produce *geosmin*.  
💡 *Fun fact:* Most antibiotics we use (like streptomycin) come from *Streptomyces*.

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## Why Shape Matters

- Helps in **identification** under microscope.
  - Often linked to **how they move** (e.g., spirals swim better in thick fluids).
  - Related to **disease-causing ability** (pathogenicity).
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## Relatable Memory Tip

- **Cocci** = “Cookies” (round) 🍪
- **Bacilli** = “Breadsticks” (long) 🍞
- **Vibrio** = “Comma” ,
- **Spirilla/Spirochete** = “Spring” 🌀
- **Corynebacter** = “Club” 🏏
- **Streptomyces** = “Noodles” 🍝