

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

140MICRO

LAB 6: SIMPLE STAIN + NEGATIVE STAIN



PURPOSE

- ③ **To recognize the three basic shapes of bacterial cells.**

THE THREE COMMON SHAPES OF BACTERIA:

1-Coccus



2- Bacillus



3- Spiral

1-Coccus

having one of the following arrangements:

- ⊙ **Diplococcus:** a pair of cocci
- ⊙ **Streptococcus:** a chain of cocci
- ⊙ **Tetrad:** a square of 4 cocci
- ⊙ **Sarcina:** a cube of 8 cocci
- ⊙ **Staphylococcus:** cocci in

irregular, often grape-like clusters



coccus



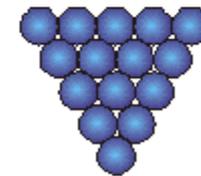
diplococcus



streptococcus



tetrad



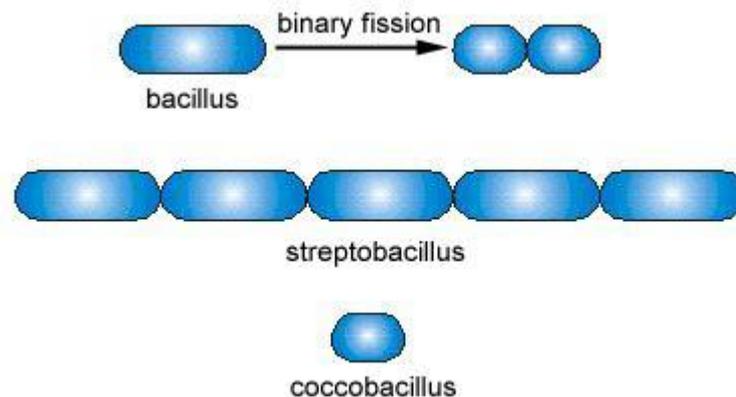
staphylococcus



sarcina

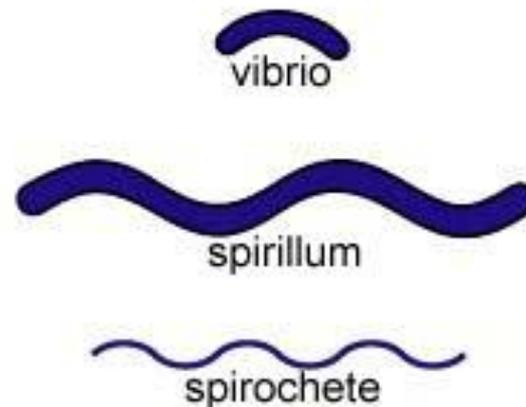
2- Bacillus

- ◎ **Bacillus:** a single bacillus
- ◎ **Streptobacillus:** bacilli in chains
- ◎ **Coccobacillus:** oval and similar to a coccus



3- Spiral

- ③ **Vibrio:** an incomplete spiral or comma-shaped
- ③ **Spirillum:** a thick, rigid spiral
- ③ **Spirochete:** a thin, flexible spiral



SHAPE OF BACTERIA



Coccus



Coccobacillus



Vibrio



Bacillus



Spirillum



Spirochete



SIMPLE STAIN



SIMPLE STAIN :

- ③ The simple stain is a very simple staining procedure involving only one stain.
- ③ You may choose from **methylene blue**, **safranin**, and **crystal violet**.

SIMPLE STAIN :

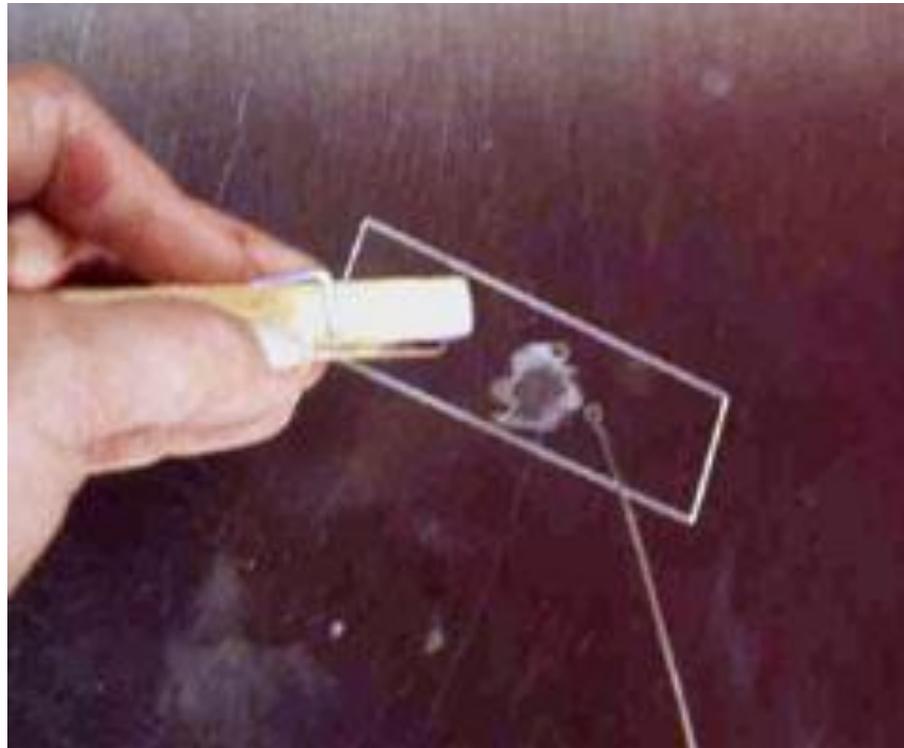


1. Prepare the smear.

- place a small drop of water on a clean slide. Drag the sterile inoculating needle tip through the edge of colony.
- Gently spread the mixture into a circle to spread out.

SIMPLE STAIN :

2. Let the smear air dry completely.



SIMPLE STAIN :



3. Heat-Fix the smear.

- ◎ Smears are heat-fixed by quickly passing the slide through a flame two or three times.
- ◎ **This causes** the microbes to **stick** to the slide and not get washed off during the staining process.

SIMPLE STAIN :



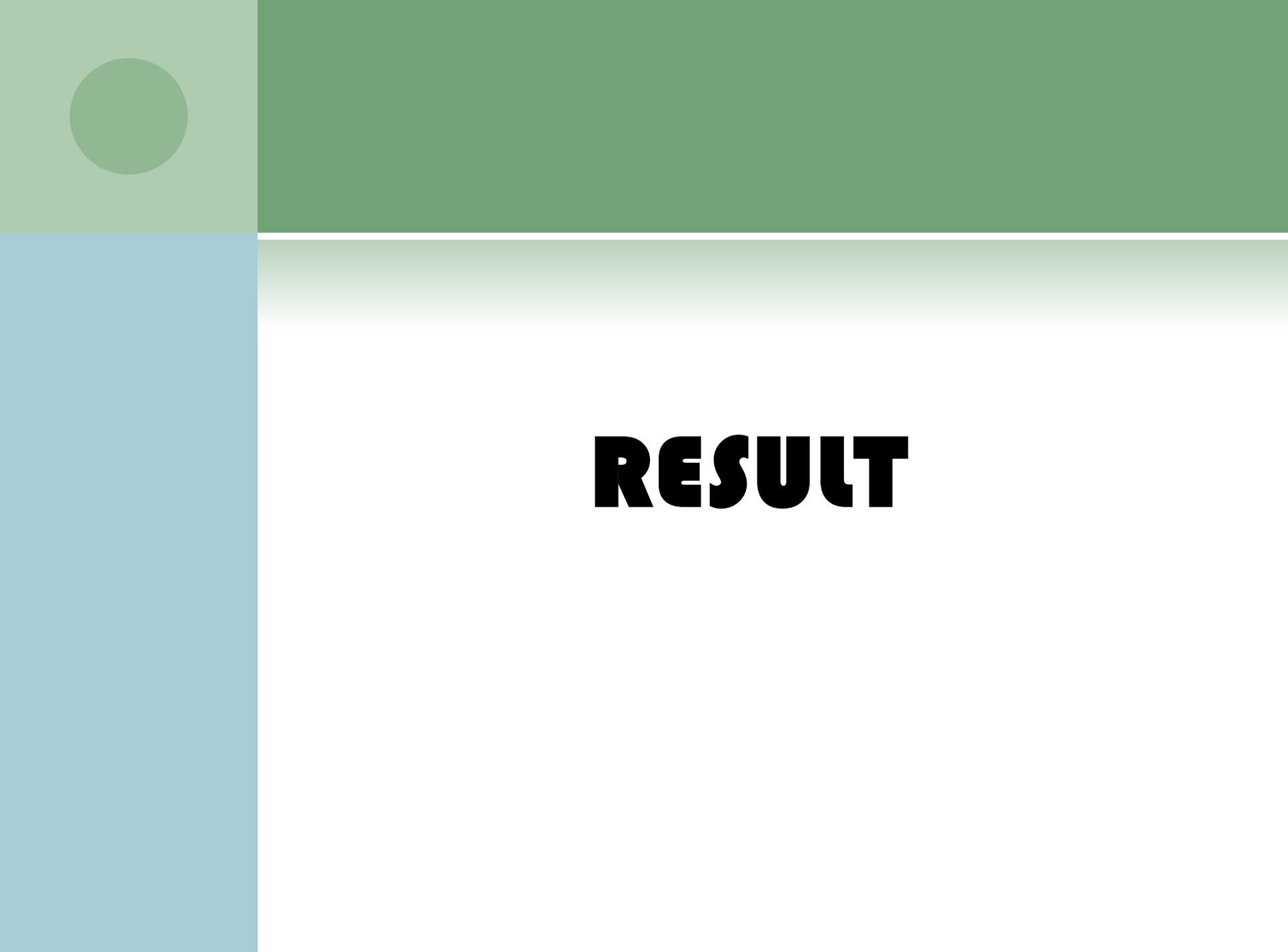
4. **Stain the smear.**

- ③ Place the slide on a rack over the sink. Flood the smear with stain and let it for 60-90 seconds. Rinse gently and blot dry.

SIMPLE STAIN :



5. Then, place a drop of oil directly on the stained smear .Turn the oil lens(100x) into position and fine focus to observe the cells.

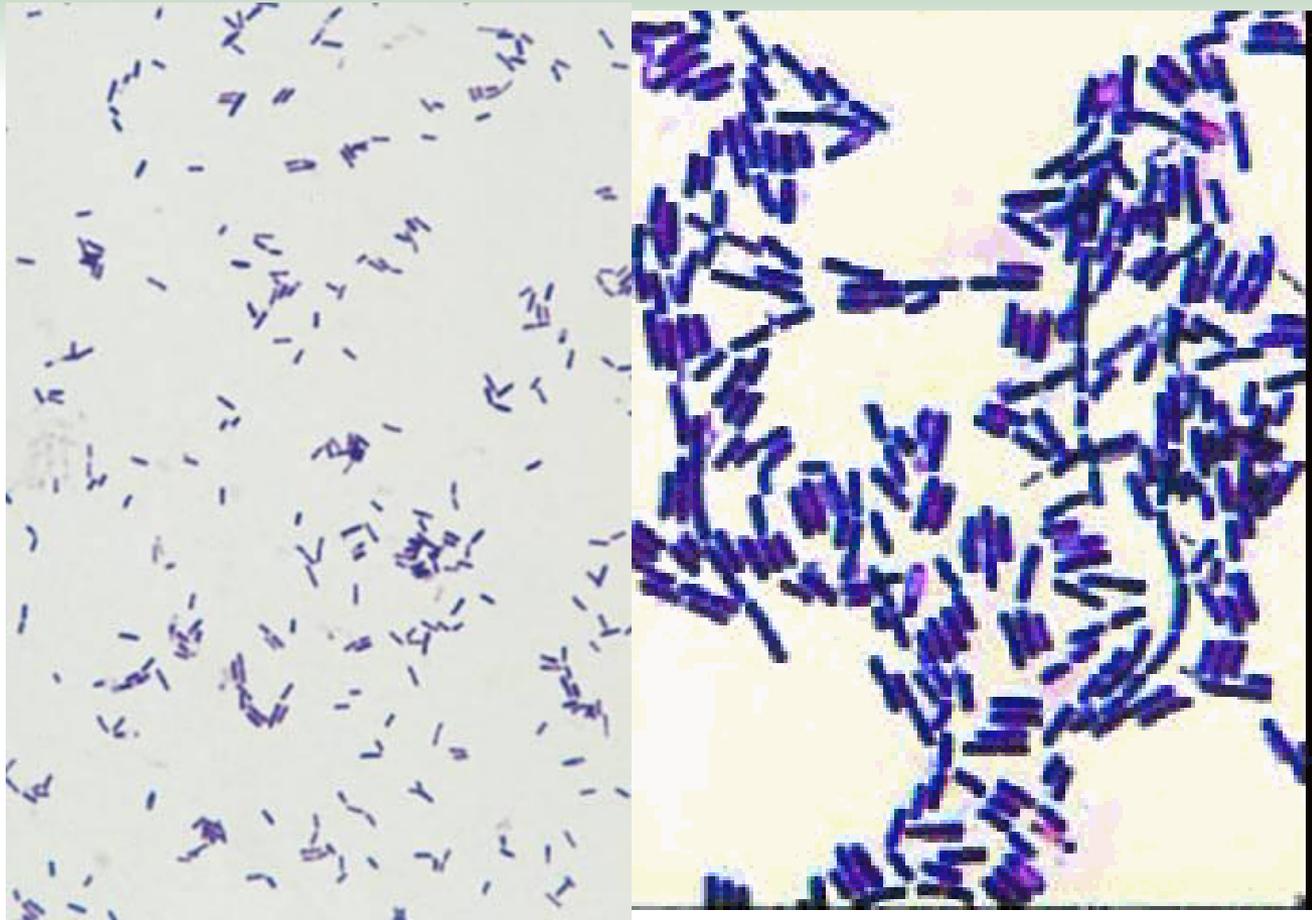
The image features a decorative background with a dark green top section, a light green horizontal band, and a light blue vertical bar on the left. A dark green circle is positioned in the top-left corner. The word "RESULT" is centered in a bold, black, sans-serif font.

RESULT

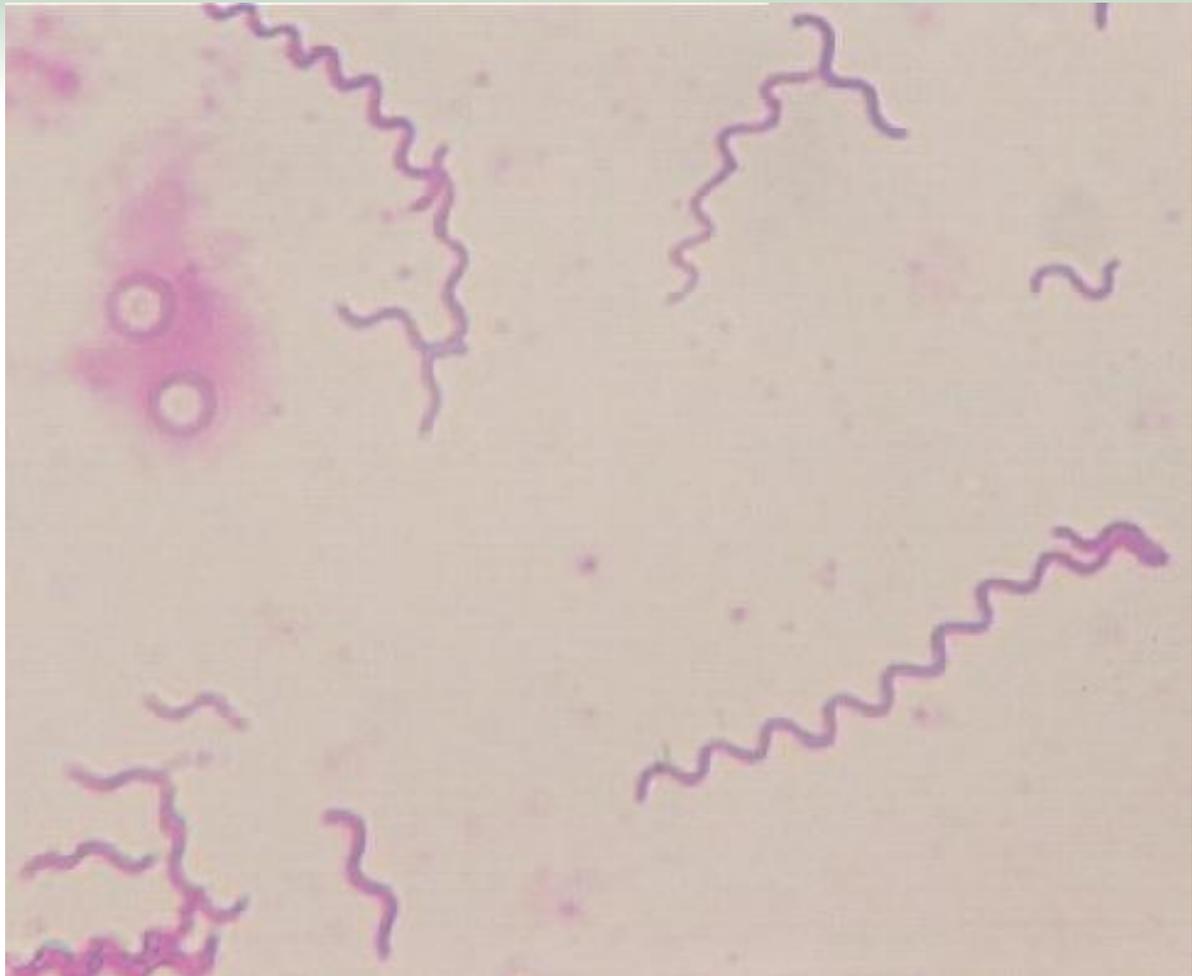
Coccus (cocci pl.)



Bacillus (Bacilli pl.)



Spirillum (Spirilli pl.)





NEGATIVE STAIN

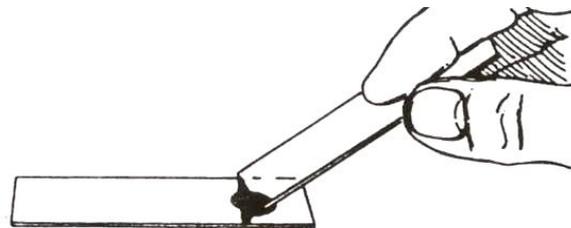
NEGATIVE STAIN :

1. Place a very small drop of **nigrosin** near one end of a slide.
2. Remove a small amount of the culture with an inoculating loop and disperse it in the drop of stain .

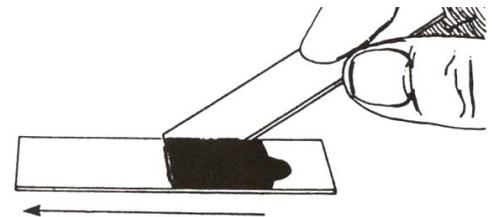


NEGATIVE STAIN :

3. Use another clean slide to spread the drop of stain containing the organism using the following technique.



1



2

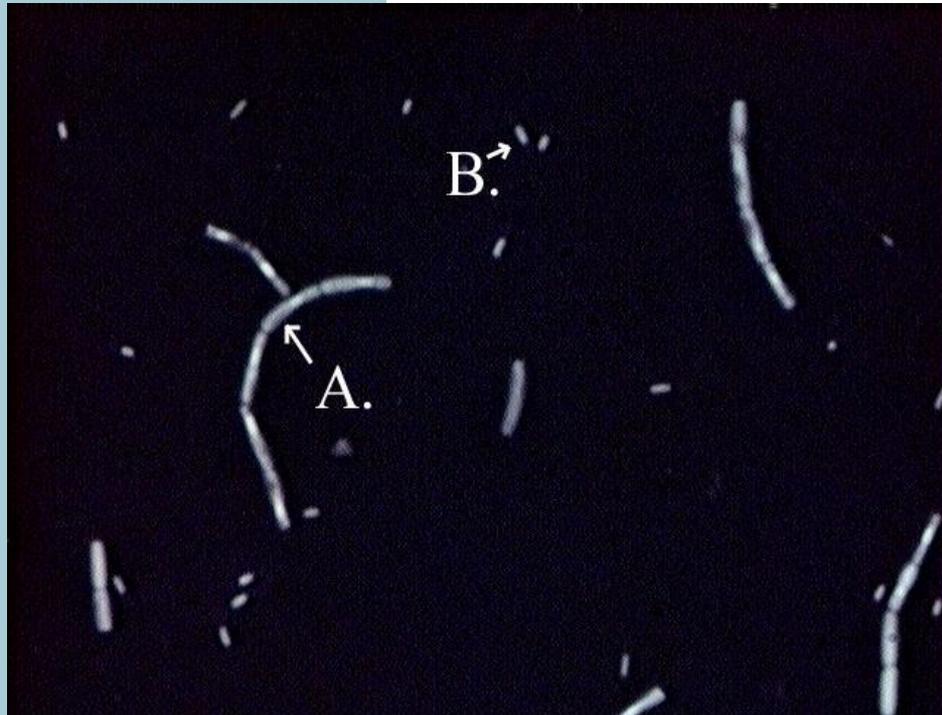
NEGATIVE STAIN :

5. Allow the smear to dry without heating.

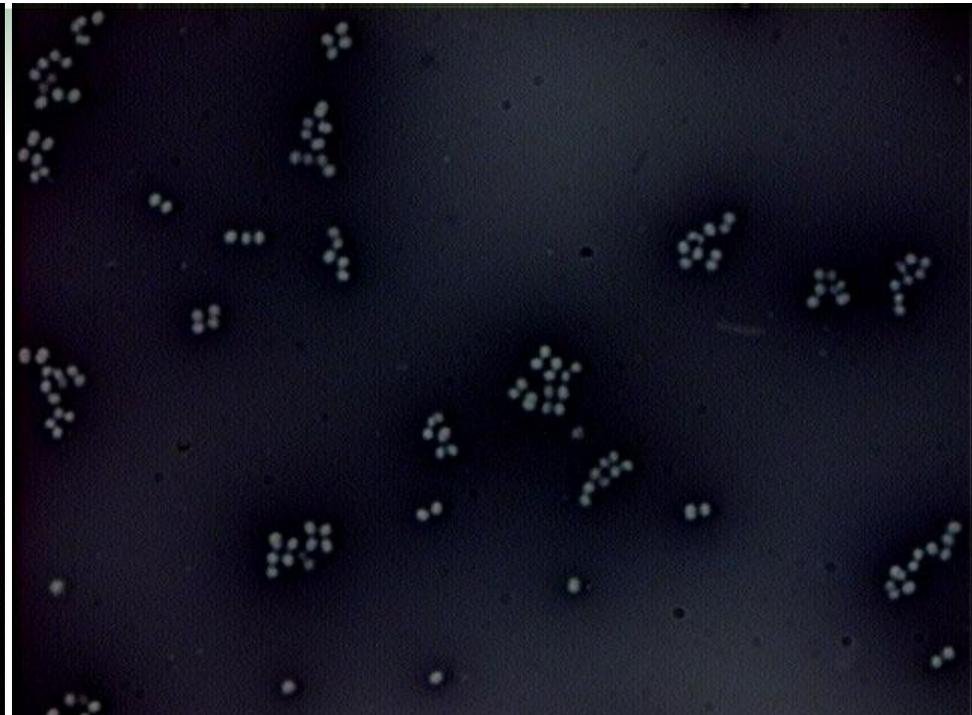


6. Observe the cells with microscope.

RESULT



Negatively Stained *Bacillus*



Negatively Stained Cocci

VIDEO TIME



THANK YOU



أشروق الشهراني