

## EXPERIMENT 7: DIVERSITY OF BACTERIA

### Course Learning Outcome:

Solve basic problems related to transport system processes, mechanisms for adaptations in living things, ecological and environmental issues in biology.

(C3, PLO 2, CTPS 3, MQF LOC ii)

### Learning Outcomes:

At the end of this lesson, students should be able to:

- i. Identify different shapes of bacteria
- ii. Apply the use of oil immersion with high magnification (oil immersion lens)

### Student Learning Time:

Face-to-face	Non face-to-face
1 hour	1 hour

Direction: Read over the lab manual and then answer the following questions.



### Check this out:

Different types of microbes have different, but characteristic, shapes. Under suitable conditions, the shape and size of microbes are relatively stable. It is important to know the morphological structure of microbes, as it provides us with a better understanding of microbial physiology, pathogenic mechanisms, antigenic features, and allows us to identify them by species. In addition, knowledge of microbial morphology can be helpful in diagnosing disease and in preventing microbial infections.



Let's review the shapes of bacteria.

Click the link below for further details:

<https://www.youtube.com/watch?v=1vRgzY8cu6c>



### Introduction:

1. State **THREE** ways to identify the diversity of bacteria.

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2. What are the basic shapes of bacteria?

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3. When do we make use of oil immersion objective lens?

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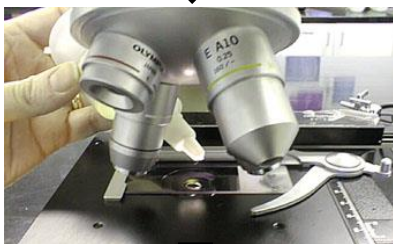
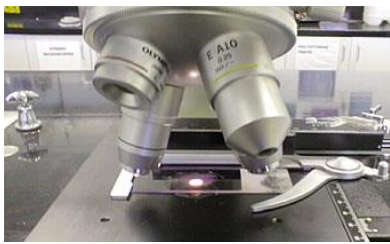
4. Why do we use oil for 100x objective lens?

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**Experiment:**

1. Describe the steps in using oil immersion lens.



2. State the expected result for the following bacteria observed using 100x objective lens:

i. *E. coli* : \_\_\_\_\_

ii. *Bacillus subtilis* : \_\_\_\_\_

iii. *Staphylococcus* sp. : \_\_\_\_\_

3. After finishing a microscopic examination, immediately clean the immersion oil from the objective lens. Why?

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4. What is the best way to clean immersion oil from the microscope lens?

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5. What are the precautions taken when handling immersion oil?

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