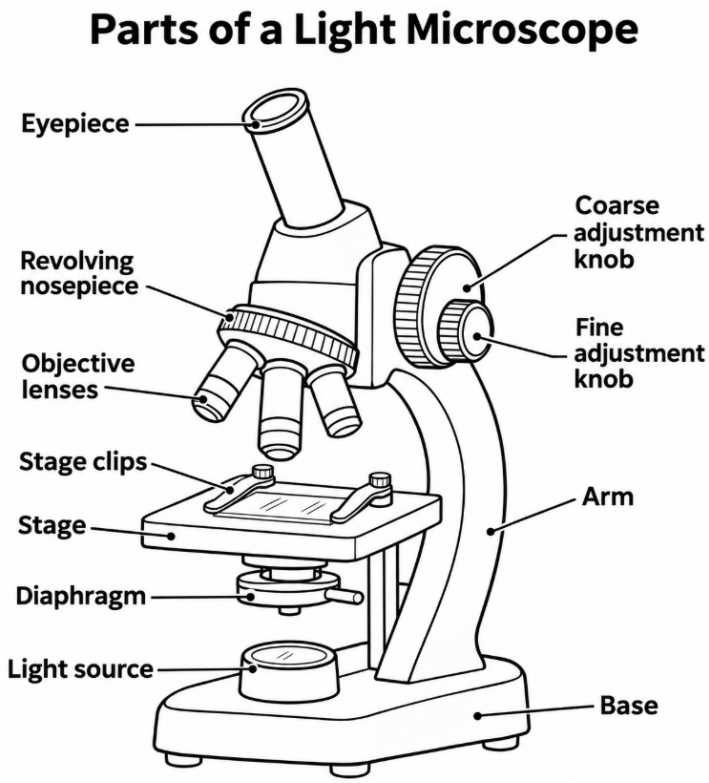
Parts of the Microscope

Name: _____ **Class:** _____ **Date:** _____

Equipment: A light microscope and a prepared slide
Total: 40 marks

A. Identify the Parts — 8 marks

Look at a real microscope or a labelled microscope diagram.



Description	Name of the part
1. The lens you look through	
2. The rotating part that holds the objective lenses	
3. The lenses positioned close to the specimen	
4. The flat platform that supports the slide	
5. The parts that hold the slide in position	
6. The part that provides light	
7. The knob used for large focusing movements	
8. The knob used for small, precise focusing movements	

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Parts of the Microscope

B. What Does Each Part Do? — 6 marks

Match each microscope part to its function. Write the correct letter.

Microscope part	Letter
1. Arm	
2. Base	
3. Diaphragm	
4. Objective lens	
5. Fine adjustment knob	
6. Stage clips	

Functions

A. Holds the slide securely on the stage.
B. Supports the microscope and keeps it stable.
C. Controls the amount of light passing through the specimen.
D. Supports the upper parts and provides a place to hold when carrying.
E. Magnifies the specimen to form an enlarged image.
F. Makes small focusing movements to sharpen the image.

C. How Does a Microscope Magnify? — 8 marks

1. Complete the sentences using the words below.
Use each word once. **(4 marks)**

light · objective · eyepiece · thin

A light microscope uses _____ to help us see a specimen.

The specimen usually needs to be _____ enough for light to pass through it.

The _____ lens forms a magnified image of the specimen.

The _____ lens magnifies this image further for the viewer.

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2. Calculate the total magnification. (3 marks)

Total magnification = eyepiece magnification × objective magnification

Eyepiece	Objective	Total magnification
10×	4×	
10×	10×	
10×	40×	

3. A student says, "The light source makes the specimen larger."

Explain why this statement is incorrect. **(1 mark)**

D. Safe Handling — 8 marks

1. Describe how you should carry a microscope. Include what each hand does. (2 marks)

2. A microscope is standing close to the edge of a table. What should you do, and why? (2 marks)

3. Which material should you use to clean a microscope lens? (1 mark)

4. Why should you use the fine adjustment knob when viewing a specimen with the high-power objective? (1 mark)

5. A glass slide breaks during the lesson. State two safe actions. (2 marks)

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E. Prepare for Observation — 6 marks

1. Number these steps from 1 to 6 to show a suitable order for beginning an observation. (3 marks)

_____ Look through the eyepiece. Focus slowly with the coarse adjustment knob, then sharpen with the fine adjustment knob.

_____ Place the microscope on a stable surface, safely away from the edge.

_____ Looking from the side, check that the objective lens will not touch the slide during the initial focusing movement.

_____ Turn on the light and adjust it to a comfortable brightness.

_____ Rotate the nosepiece until the lowest-power objective clicks into position.

_____ Place the prepared slide on the stage, secure it, and centre the specimen over the light opening.

2. Why should you begin with the lowest-power objective? Give one reason. (1 mark)

3. Before switching to a higher-power objective, what should you do to the specimen's image? Give two actions. (2 marks)

F. Practical Check — 4 marks

Ask your teacher or partner to observe you. Tick each action when completed safely.

Practical skill	Completed
I carry the microscope with two hands.	☐
I select the lowest-power objective before beginning.	☐
I secure the slide and centre the specimen over the light opening.	☐
I obtain a clear image using appropriate focusing controls.	☐

Teacher/partner initials: _____

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Parts of the Microscope

Teacher Answer Key

A. Identify the Parts — 8 marks

1. Eyepiece
2. Revolving nosepiece
3. Objective lenses
4. Stage
5. Stage clips
6. Light source
7. Coarse adjustment knob
8. Fine adjustment knob

Award **1 mark each**. Accept equivalent names, such as *ocular lens* for eyepiece and *illuminator* for light source.

B. Functions — 6 marks

1. D
2. B
3. C
4. E
5. F
6. A

Award **1 mark each**.

C. Magnification — 8 marks

1. Missing words: light; thin; objective; eyepiece. **(4 marks)**

2. Calculations: (3 marks)

- 10 × 4 = **40×**
- 10 × 10 = **100×**
- 10 × 40 = **400×**

3. Explanation: The light source illuminates the specimen. The **objective and eyepiece lenses** produce the magnification. **(1 mark)**

D. Safe Handling — 8 marks

1. Hold the arm with one hand **(1)** and support the base with the other **(1)**.

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2. Move it to a stable position away from the edge **(1)** to reduce the risk of it falling and causing injury or damage **(1)**.

3. Lens paper or lens tissue designed for optical lenses. **(1)**

4. Fine adjustment makes small movements, reducing the risk of the objective hitting the slide while sharpening the image. **(1)**

5. Award **1 mark each** for two appropriate actions:

- Tell the teacher immediately.
- Keep hands away from the broken glass.
- Warn others and keep the area clear.
- Allow the teacher to arrange collection and disposal using appropriate equipment.

Do not accept picking up broken glass with bare hands.

E. Prepare for Observation — 6 marks

1. Correct numbers in the order printed: 6, 1, 5, 2, 3, 4

Award **0.5 marks per correctly numbered step**.

Correct sequence:

1. Place the microscope safely on a stable surface.
2. Turn on and adjust the light.
3. Select the lowest-power objective.
4. Secure the slide and centre the specimen.
5. Check lens–slide clearance while looking from the side.
6. Look through the eyepiece and focus.

2. Accept one: **(1 mark)**

- It gives a wider field of view, making the specimen easier to find.
- It usually provides greater working distance, reducing the risk of contact with the slide.

3. Bring the image into clear focus **(1)** and centre the part you want to observe **(1)**.

Equipment note: Follow the manufacturer's focusing procedure. Some microscopes move the stage; others move the lens assembly. Always monitor clearance and prevent the objective from touching the slide.

F. Practical Check — 4 marks

Award **1 mark per skill demonstrated safely**.

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