

Goal • Use this page to review your understanding of microscopes.

What to Do

Part A

Beside each function on the left-hand side, place the letter representing the microscope part on the right-hand side that best matches the function.

Function	Microscope part
1. holds the slide in place	(a) objective lens
2. lens closest to the eye	(b) eyepiece
3. supplies the light needed to view the object	(c) revolving nosepiece
4. allows you to switch magnifications	(d) coarse focus knob
5. magnifies the object	(e) stage clips
6. supports the microscope slides	(f) fine focus knob
7. used for focusing at low power	(g) light source
8. used for focusing at high power	(h) stage

Part B

Answer the questions below in full sentences.

1. What is the difference between the simple microscope used by Anton von Leeuwenhoek and the compound light microscope?

2. Name three parts of a compound light microscope that have names similar to the names of human body parts.

3. Name two other kinds of microscopes mentioned in your textbook that have not been mentioned on this page.

Use with textbook pages 11–14.

Microscopes

Vocabulary	
coarse focus knob	magnification power
compound light microscope	objective lenses
electron micrograph	resolving power
eyepiece	reversed
fine focus knob	right slide up
light source	upside down

Use the terms in the vocabulary box to fill in the blanks. Use each term only once. You will not need to use all the terms.

1. The _____ is the microscope usually used in science classes and medical laboratories.
2. The _____ lens that magnifies. _____ is used for viewing and contains a medium power.
3. The _____ brings an object into focus at low or medium power.
4. The _____ brings an object into focus at high power.
5. The _____ have different magnification power to magnify the object.
6. The _____ supplies the light needed to view the slide.
7. The ability to distinguish between objects that are very close together is called _____.
8. When you look through a microscope, you will observe an image that is magnified, _____ and _____.
9. A(n) _____ is a picture taken by a camera hooked up to an electron microscope.

CHAPTER 1**Calculate Magnification****BLM 1.8**

Goal • Use this page to practise calculating magnifications.

Think About It

A magnifying lens that magnifies the size of an image by 10 times has a magnification of 10×. A compound microscope uses two lenses to create higher magnifications.

What to Do

To calculate the total magnification of a compound microscope, multiply the magnification of the eyepiece by the magnification of the objective lens.

1. What is the magnification of a microscope with two lenses that each enlarges an image by 10×?

2. An eyepiece on a microscope has a magnification of 10×. The objective lenses on the microscope have magnifications of 4× at low power, 10× at medium power, and 40× at high power.

(a) Using the information how would you combine lenses on a microscope if you wanted to magnify an object 400×?

(b) How would you combine lenses if you wanted to magnify an object 100×?

(c) How would you combine lenses if you wanted to magnify an object 400×?

3. If a compound microscope has an eyepiece of 15× magnification and you select an objective lens with a power of 40×, what is the total magnification of the object?

4. Fill in the blanks within the brackets to express total magnification as a word equation. Total magnification = () × ()