

In review

Select the most appropriate alternative for each of the following four questions.

- Four structures were measured. Which of the following lists them from smallest to largest?
(a) 0.25 μm , 0.25nm, 0.25 mm, 0.25 m
(b) 0.25 nm, 0.25mm, 0.25 μm , 0.25 m
(c) 0.25 μm , 0.25nm, 0.25 mm, 0.25 μm
(d) 0.25 nm, 0.25 μm , 0.25 mm, 0.25 m
- The following microscope uses a different source other than light to view the image:
(a) differential interference contrast
(b) scanning electron microscope
(c) phase contrast microscope
(d) confocal microscope.
- The capacity of a microscope to resolve refers to its ability to:
(a) enlarge
(b) brighten
(c) separate into components
(d) give a three-dimensional view.
- To visualise a cell organelle that is 0.005 μm , which is the best microscope to use?
(a) a compound microscope
(b) a scanning confocal microscope
(c) an electron microscope
(d) a fluorescent microscope
- Match each of the year(s) in column X with the relevant scientific discovery in column Y.

Column X	Column Y
1665	scanning electron microscope is released
1831	transmission electron microscope is developed
1851	Robert Hooke describes cells
1858	Professor Riddell produces the binocular microscope
1930s	Louis Pasteur disproves spontaneous generation
1965	Robert Brown describes the nucleus
1862	Rudolf Virchow suggests new cells come from existing cells

- Complete the following word puzzle.

Across

- Ability to rotate the objective lenses of a light microscope while keeping the image in view
- Surname of inventor of the confocal scanning microscope
- Type of microscope that uses ultraviolet light to view compounds stained with special dye

- Type of lenses found on the revolving nose-piece of a light microscope
- Acronym for microscope that passes a beam of electrons through a specimen to reveal the internal cell structure
- Type of microscope that uses laser light to view successfully deeper layers of an object
- Name given to microscope constructed by Professor Riddell
- System that gives first-class, three-dimensional views of an object
- Human cells with an average lifespan of two days
- Liquid used between a specimen slide and an objective lens to reduce refraction of light

Down

- Part of a light microscope that improves resolution of image
- To increase the apparent size of an image
- Ability to see two points that are close together as two separate points
- Instrument used to view cells too small to be seen with the naked eye
- Part of a light microscope that holds the glass slide
- Acronym for microscope that uses a beam of electrons to reveal details of cell surfaces
- Used to dye tissues to make them more visible
- Type of microscope that uses glass lenses
- Basic structural and functional unit of a living thing

