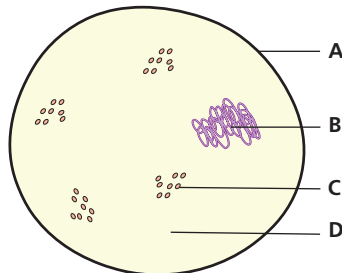


- 8 Rewrite a correct version of the student's sentence.
- 9 What is the role of the mirror?
- 10 What do some microscopes have instead of a mirror?
- 11 Why does the stage have clips on it?
- 12 A student says that magnifying and focusing are really similar. Explain why the student is wrong.
- 13 Describe how you could use a microscope to view a grain of sand. Your answer should have at least four sentences.
- 14 A student is using a microscope. On which part do they place the slide?
- 15 A scientist is viewing a slide under the microscope but cannot focus the image. Which part of the microscope is not working?
- 16 Which part of the microscope helps us to adjust the light shining on the slide?
- 17 Why do we use microscopes?
- 18 What is the purpose of the eyepiece?
- 19 What do we call what we observe when looking through a microscope?
- 20 What are the two functions of a microscope?
- 21 Explain why the stage of a microscope has a small hole in the middle under where the slide is placed.
- 22 True or false: a microscope can only be used to view living cells.
- 23 A student follows the steps below to use a microscope. Find and fix two errors they have made.
  - Place slide on the stage.
  - Turn objective lens to the highest power.
  - Move the focusing wheel.
  - View slide through the eyepiece.
- 24 A student writes, 'Microscopes make an object look bigger.' Correct their answer to use scientific language.
- 25 When we use the objective lenses, are we magnifying or focusing the image?

## B1.2 Cell structure

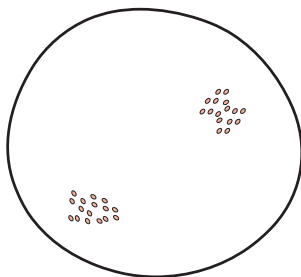
- 26 Define a *cell*.
- 27 Define an *organism*.
- 28 What is a microscope used for?

- 29 In terms of how many cells they are made of, name the two types of organism.
- 30 What is a *sub-cellular structure*?
- 31 Name four sub-cellular structures found in all cells.
- 32 Name the four common sub-cellular structures represented by A–D on this diagram.

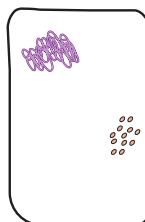


- 33 Give the function of the ribosome.
- 34 Give the function of genetic material.
- 35 Give the function of cytoplasm.
- 36 Give the function of the cell membrane.
- 37 Through which part of the cell do substances enter or leave?
- 38 Give two examples of substances that may enter or leave a cell.
- 39 A student writes, 'The cytoplasm is the empty space within a cell.' Explain why they are wrong.
- 40 Name the two sub-cellular structures in a cell that are needed to make proteins.
- 41 What are the three main steps to follow when looking at something through a microscope?
- 42 Which sub-cellular structure(s) would we be able to see using a microscope?
- 43 Why do we stain a sample before viewing under a microscope?
- 44 Identify the one mistake in each of the following cell diagrams.

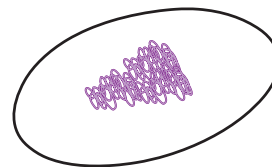
a



b

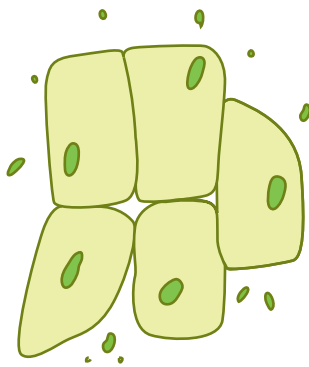


c



- 45 Explain why scientists did not know about cells until microscopes had been invented.

- 46 A student looks at a microscope image. When asked to describe what the microscope's effect on the image is, they say, 'The microscope has zoomed into the image so we can see it.' What mistake have they made?
- 47 Write a correct version of the student's answer from the previous question.
- 48 What information about cells has been discovered due to the invention of microscopes?
- 49 Many chemical reactions take place in cells. In which part of the cell do these happen?
- 50 Oxygen is an important gas needed by cells to survive. Through which part of the cell does oxygen enter?
- 51 A student is observing cells under a microscope. They observe the image below. How many cells can they see?



- 52 What four sub-cellular structures do we observe in all cell types?
- 53 What two things do cells need to grow?
- 54 A student says bacteria are multicellular organisms as you find many of them together. Why are they wrong?
- 55 Why do cells need proteins?
- 56 A student measures the size of the magnified cells they are observing under a microscope. What do we call this measurement?
- 57 Cell A has ten ribosomes. Cell B has three ribosomes. Which cell is likely to make more proteins? Explain your answer.
- 58 Building molecules is an important chemical reaction in cells. In which sub-cellular structure does this reaction occur?
- 59 A cell does not have any ribosomes. What can it **not** do?
- 60 A cell does not have any genetic material. What is missing as a result?