8 SCIENCE 2014

BIOLOGY TEST ONE

Name: _____ **Teacher:** _____ **Mark:** /52

TEACHER COPY

Percentage: %

SECTION A: **MULTIPLE CHOICE** **(15 marks)**

Select the most correct answer for each question below.

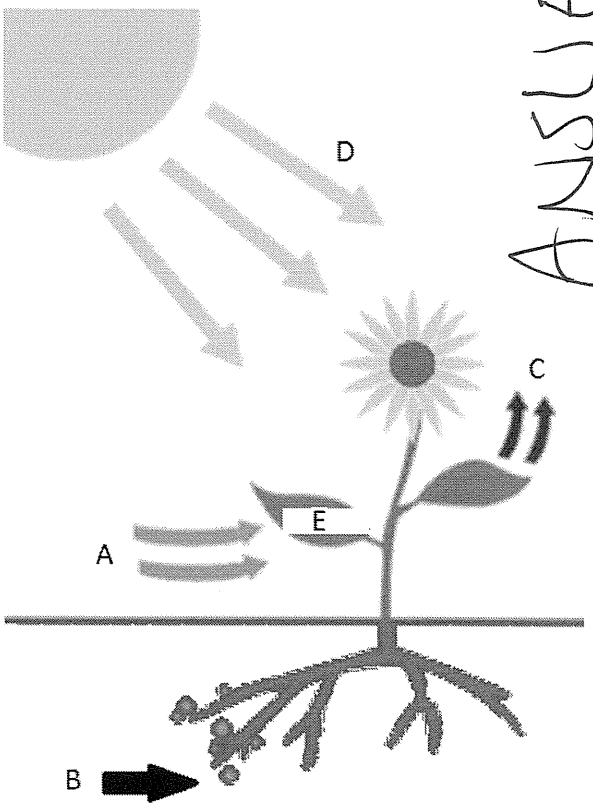
ANSWER KEY

1. Look at the diagram on the right. Choose the correct statement below.

(a) 'A' refers to carbon dioxide.
(b) 'A' refers to oxygen.
(c) 'A' refers to sunlight.
(d) 'A' refers to nutrients.

2. Look at the diagram on the right. Choose the correct statement below.

(a) 'B' refers to carbon dioxide.
(b) 'B' refers to soil.
(c) 'B refers to nutrients.
(d) 'B' refers to water.



3. Look at the diagram on the right. Choose the correct statement below.

(a) 'E' refers to chloroplast.
(b) 'E' refers to glycerol.
(c) 'E' refers to glucose.
(d) 'E' refers to cytoplasm.

4. Look at the diagram on the right. Choose the correct statement below.

(a) The diagram shows the process of plant eating.
(b) The diagram shows the process of photosynthesis.
(c) The diagram shows the process of protosynthesis.
(d) The diagram shoes the process of photothesis.

5. Choose the correct definition for 'microscopic'.

(a) A scientific piece of equipment.
(b) An object made of atoms.
(c) Describes objects that can only be seen using a microscope.
(d) A type of magnifying lens.

6. Choose the correct definition for 'magnified'.

(a) Made brighter.
(b) Made clear.
(c) Made smaller.
(d) Made bigger.

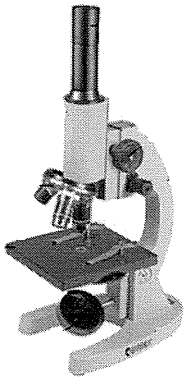
7. Choose the correct definition for 'image'.

(a) A photo of a specimen.
(b) What is seen using the microscope.
(c) An inverted specimen.
(d) The object being looked at through a microscope.

8. Choose the correct definition for 'specimen'.

(a) The slide with film.
(b) The object being looked at through a microscope.
(c) Plant or animal cells.
(d) What is seen using the microscope.

9. The microscope on the right is known as a:



(a) Electron microscope.
(b) Binocular microscope.
(c) Stereo microscope.
(d) Light microscope.

10. When a dead plant or animal is cut apart to be studied, this is called a:

(a) Biology.
(b) Butchery.
(c) Dissection.
(d) Intersection.

11. As the magnification of a microscope increases, then you can see:

(a) More of the specimen.
(b) Less of the specimen.
(c) More intensity.
(d) Less intensity.

12. The organelle containing the genetic information (DNA) is called the:

(a) Cell membrane.
(b) Nucleus.
(c) Cytoplasm.
(d) Mitochondria.

13. The amount of the specimen you can see through a microscope is called the:

(a) Field of view.
(b) Magnification.
(c) Illumination.
(d) Image.

14. Organelles that both plant cells and animal cells contain are:

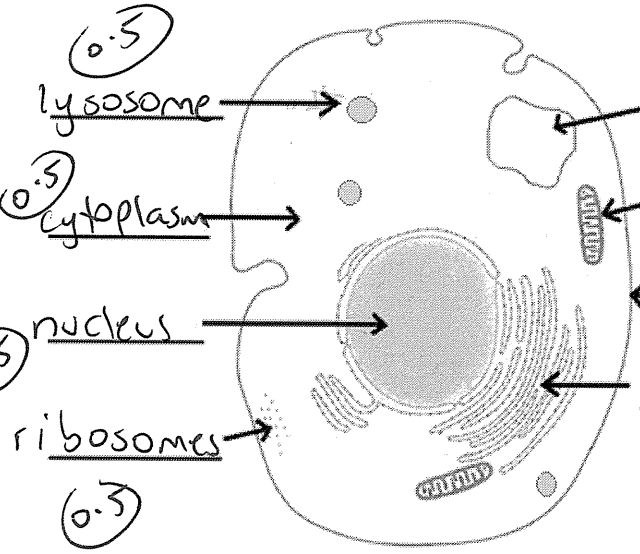
(a) Cytoplasm, nucleus, cell wall, vacuole.
(b) Nucleus, chloroplast, cell membrane, vacuole.
(c) Cell membrane, nucleus, vacuole, cytoplasm.
(d) Cytoplasm, cell membrane, cell wall, nucleus.

15. Organelles that both animal cells and fungal cells contain are:

(a) Chloroplast, cytoplasm, cell membrane, nucleus.
(b) Chloroplast, cytoplasm, nucleus, cell wall.
(c) Cell membrane, nucleus, cytoplasm, mitochondria.
(d) Cell membrane, cytoplasm, nucleus, cell wall.

SECTION B: **SHORT ANSWER** **(37 marks)**

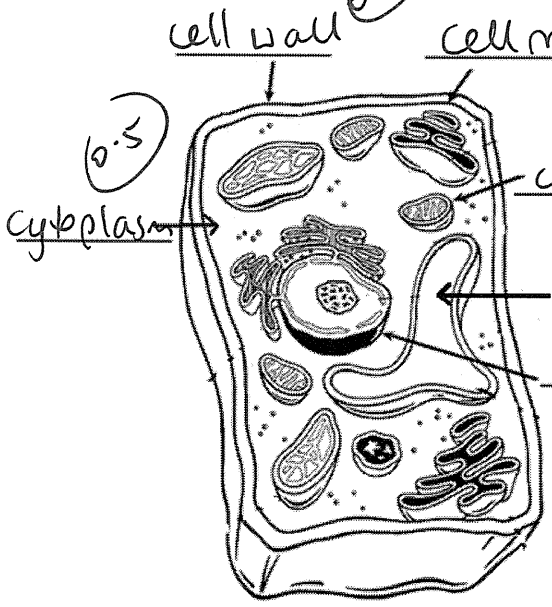
1. Label the diagram of the animal cell below. (4 marks)



Must be spelt correctly

0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5

2. Label the diagram of the plant cell below. (3 marks)



Must be spelt correctly

0.5 0.5 0.5 0.5 0.5 0.5

3. Explain the main difference between an animal cell and a plant cell. (2 marks)

Animal cells do not have (1) chloroplast, plant cells do have chloroplast. Animal cells do not have cell walls, plant cells (1) do have cell walls.

8. Fill in the table below. (6 marks)

Organelle	**Function**
Mitochondria	The organelle that produces energy. (0.5) (0.5)
Ribosomes (0.5)	Organelles that make proteins.
Nucleus	The control (0.5) centre (0.5) of the cell
Endoplasmic reticulum (0.5)	Organelles that move materials through the cell.
Cytoplasm	Jelly-like (0.5) material that organelles (0.5) float in.
Lysosomes (0.5)	Organelles that remove waste from the cell.
Chloroplast	organelle in plant (0.5) cell where photosynthesis (0.5) occurs
vacuole (0.5)	Structure that stores materials in the cell.

9. The things you look at under the microscopes are so small so cm or mm are not used. (1 mark)

State the unit of measurement used to look at things under a microscope and the symbol for the unit of measurement.

micrometre (0.5) μm (0.5)

10. Write a definition for electron microscope. (2 marks)

A (0.5) microscope that uses (0.5) beams of electrons (0.5) to magnify. (0.5)

11. Fill in the table below. (2 marks)

Part of microscope	Function
Mirror	Directs light up through the stage & specimen. (0.5)
Fine focus knob (0.5)	Used to focus the image on high power.
Stage	where the specimen is placed. (0.5)
Coarse focus knob (0.5)	Used to focus the image on low power.

12. Describe how you would safely carry a microscope. (2 marks)

One hand under base (1)

One hand holding handle (1)

13. Fill in the missing words. (2 marks)

There are three objective (0.5) lenses.

The three magnifications are 4x (0.5), 10x (0.5) and 40x (0.5).

14. Circle either true or false for the following statements. (2 marks)

Fungal cells have the same organelles as animal cells.	(True)	False
Fungal cells do not have a cell wall.	True	(False)
Fungal cells have chloroplasts.	True	(False)
Fungal cells are not able to make their own food.	(True)	False

4. Explain the difference between an ocular microscope and a binocular microscope. (2 marks)

Ocular microscope has one ocular lens. (1) Binocular microscope has two ocular lenses. (1)

5. Write a definition for the word 'organelle'. (2 marks)

The smallest parts of a cell. (1) (1)

6. Fill in the missing words. (3 marks)

Stereo microscopes are different to light microscopes because there is no light (0.5) going through the specimen (0.5) on the stage. Instead, light that shines onto the specimen reflects (0.5) back up through the lenses to create the images.

This means that the specimen does not need to be thinly sliced, anything can be placed under a stereo microscope and dissections (0.5) of specimens can be carried out while watching through the microscope. Stereo microscopes are binocular (0.5) microscopes and create a 3D image.

7. Label the diagram of the microscope below. (4 marks)