

Name: _____



Year 8 Science Exam Multiple Choice Answer Sheet

**KINROSS
COLLEGE**
Believe · Act · Achieve

Circle the letter indicating the *best* answer.

1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D
18	A	B	C	D
19	A	B	C	D
20	A	B	C	D



**KINROSS
COLLEGE**

Believe · Act · Achieve

YEAR 8 SCIENCE EXAMINATION

SEMESTER 2 2018

QUESTION AND ANSWER BOOKLET

STUDENT NAME:
TEACHER:
DATE:

TIME ALLOWED FOR THIS EXAM:

Reading time **before** commencing work: 10 minutes
Working time for this paper: 1 hour 50 minutes

MATERIAL REQUIRED / RECOMMENDED FOR THIS PAPER:

To be provided by the supervisor:

- This question and answer booklet

To be provided by the candidate:

- Pens, pencils, eraser and ruler

IMPORTANT NOTE TO CANDIDATES

No other items may be taken into the examination room.

It is your responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **BEFORE** reading any further. All iPads and mobile phones must be turned off and in your bag along with any other devices and notes. Bags are to be closed and placed under the desk.

INSTRUCTION TO CANDIDATES:

1. **Read** through both papers to familiarise yourself with all the questions.
2. Use a **blue or black** ballpoint / ink pen for written answers. Use pencil for drawing graphs or labeling diagrams.
3. **Write** your answers in the booklets.
4. Should you require more space than you have been given please use **the spare sheet** (at the back of this booklet) and ensure that you include your name and the question / statement to which you are responding.

AT THE END OF THE EXAMINATION:

- Any planning sheets or other pieces of paper **MUST** be handed in with this booklet.
- At the end of the examination make sure that your name is on your booklet and any other pieces of paper used.

Do not turn the page until you are asked to do so

Year 8 Multiple Choice

(Use attached answer sheet provided)

BIOLOGY

1. An organelle is

- a) found only in plant cells
- b) found only in animal cells
- c) a mini-organ found in cells
- d) a substance that causes cancer

2. The part of a cell that allows some things to go into and out of the cell is called:

- a) The nucleus
- b) The cell membrane
- c) The cell wall
- d) The vacuole

3. Which of the following shows the correct sequence of air entering the human body?

- a) Mouth, trachea, bronchi, bronchioles, alveoli, capillaries.
- b) Mouth, alveoli, bronchi, bronchioles, trachea, capillaries.
- c) Mouth, trachea, alveoli, bronchioles, capillaries, bronchi.
- d) Capillaries, alveoli, bronchioles, bronchi, trachea, mouth.

4. What is the name of the moist and sticky substance that lines areas of the respiratory tract?

- a) Cilia
- b) Mucus
- c) Allergens
- d) Treacle

5. Which of the following best describes peristalsis?

- a) The chewing of food in the mouth
- b) Contraction and relaxation of the muscles that move food along the digestive tract
- c) The absorption of digested food into the bloodstream
- d) The process of eliminating faeces

6. In which direction do veins transport blood?

- a) Away from the heart
- b) Back to the heart
- c) Towards the extremities
- d) To the lungs

7. The primary role of red blood cells is to

- a) Transport oxygen
- b) Transport glucose
- c) Carry out the immune response
- d) Form blood clots to repair damaged blood vessels

8. Blood is prevented from moving in the wrong direction by:

- a) Arteries
- b) Veins
- c) Valves
- d) Capillaries

9. The male part of the flower, or stamen, consists of the

- a) Petals and sepals
- b) Stigma and style
- c) Ovules and ovary
- d) Anther and filament

10. The action of the male sex cell joining with the female sex cell is called

- a) Fertilisation
- b) Pollination
- c) Seeding
- d) Flowering

CHEMISTRY

11. When a material cools down, its particles...

- a. Vibrate slower and make it contract
- b. Vibrate faster and make it expand
- c. Vibrate slower and make it expand
- d. Vibrate faster and make it contract

12. My particles are lined up in a regular repeating pattern and cannot change position. I am a:

- a. Plasma
- b. Gas
- c. Liquid
- d. Solid

13. Which of the following is a physical change?

- a. Methane burning in air
- b. Magnesium fizzing in hydrochloric acid
- c. Ice melting into water
- d. Glucose releasing energy in respiration

14. Water contains 2 hydrogen atoms bonded on to 1 oxygen atom. Water is...

- a. An element
- b. A compound
- c. A mixture
- d. None of the above

15. If a perfume bottle is opened at the front of the classroom, eventually people at the back of the room can smell it. This is due to:

- a. Dissolution
- b. Deflection
- c. Diffusion
- d. Distraction

16. What is a reactant?

- a. A substance created by a chemical reaction
- b. A person who controls a chemical reaction
- c. A substance you start with before a chemical reaction
- d. A chemical change

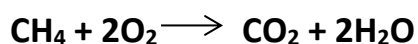
17. What is the periodic table?

- a. A table showing all of the elements
- b. A list of molecules
- c. A table of gases
- d. A table showing all of the solids

18. If a material can be compressed, it means it can

- a. Change its shape
- b. Be squeezed into a smaller space
- c. Be poured through a tube
- d. Be heated to a very high temperature

19. The burning of methane can be written by the chemical reaction



The products of this reaction are:

- a. $\text{CH}_4 + 2\text{O}_2$
- b. $2\text{O}_2 + 2\text{H}_2\text{O}$
- c. $\text{CH}_4 + \text{CO}_2$
- d. $\text{CO}_2 + 2\text{H}_2\text{O}$

20. A molecule is...

- a. Groups of two or more atoms bonded together
- b. Two or more of the same atoms bonded together
- c. Two or more different types of atoms bonded together
- d. All of the above

End of Multiple Choice Questions

KEYWORDS AND DEFINITIONS

Match the definitions to the appropriate keyword.

	Keywords		Definitions
1	Eukaryotic	a	The spreading out of a substance due to movements of particles
2	Mitochondria	b	The absorption of oxygen and removal of carbon dioxide in the lungs
3	Gas exchange	c	A particle made up of more than one atom
4	Villi	d	When pollen from one flower is able to fertilise the ovule of another flower
5	Cross-Pollination	e	A type of cell that contains a nucleus
6	Diffusion	f	The substances that react together during a chemical reaction
7	Density	g	A substance made out of only one type of atom
8	Element	h	Part of the cell that releases energy through respiration
9	Reactant	i	Tiny structures that line the inside of the small intestine to increase surface area
10	Molecule	j	A measure of how much mass is contained in a certain amount of space

Put the letter of the correct definition to the keyword.

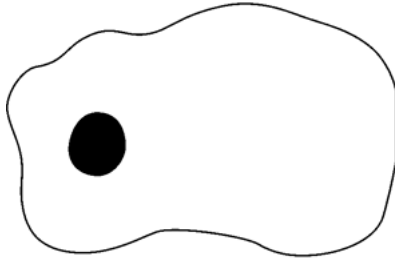
Keywords	Definitions
1	
2	
3	
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SHORT ANSWERS (60 marks):

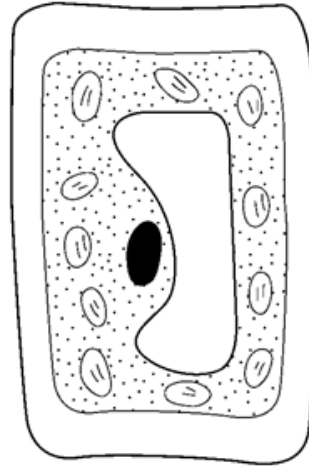
BIOLOGY (30 MARKS)

1.

ANIMAL CELL



PLANT CELL



Write down 3 things that a plant cell has but an animal cell does not have.

(3 marks)

1 _____

2 _____

3 _____

2. Which body system is responsible for:

(4 marks)

a. Transporting substances around the body: _____

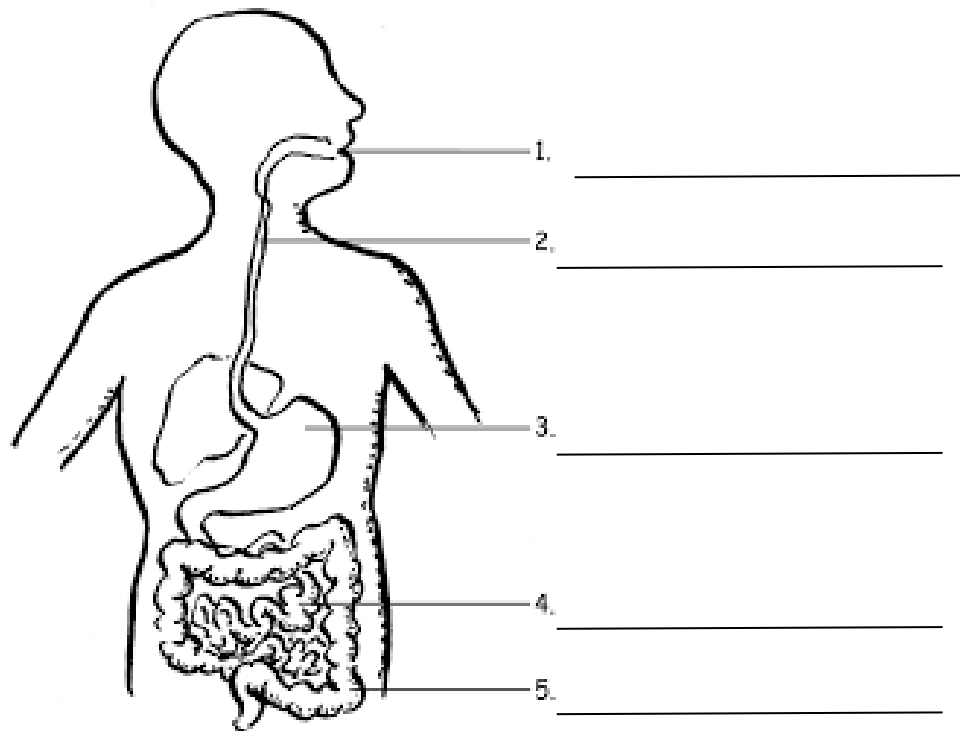
b. Processing food:

c. Providing oxygen for the body: _____

d. Removing waste: _____

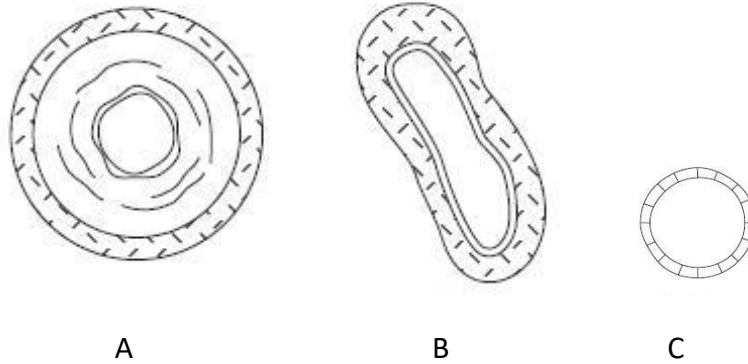
3. Label the following diagram of the digestive system:

(5 marks)



4. There are thousands of tiny blood vessels that take blood to and from the lungs. Why is it important that your lungs have a good blood supply? (2 marks)

5. The diagram below shows the three kinds of blood vessels in the body



i) Which is the vein ____ artery ____ capillary ____ ? (3 marks)

ii) Explain how you identified the vein (1 marks)

6. Name one method of asexual reproduction and give an example of one organism that uses this method. (2 marks)

Method: _____

Example: _____

7. What are two differences between sexual reproduction and asexual reproduction? (2 marks)

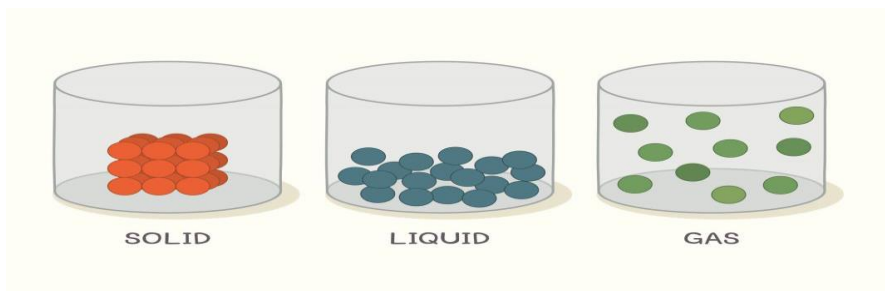
8. Name two organs that are part of the excretory system and describe what their function is: (4 marks)

1 _____

2 _____

CHEMISTRY (30 MARKS)

10. States of matter differ in several ways.



Using the diagram above, describe the difference in.....

a) the speed of the particles:

(2 marks)

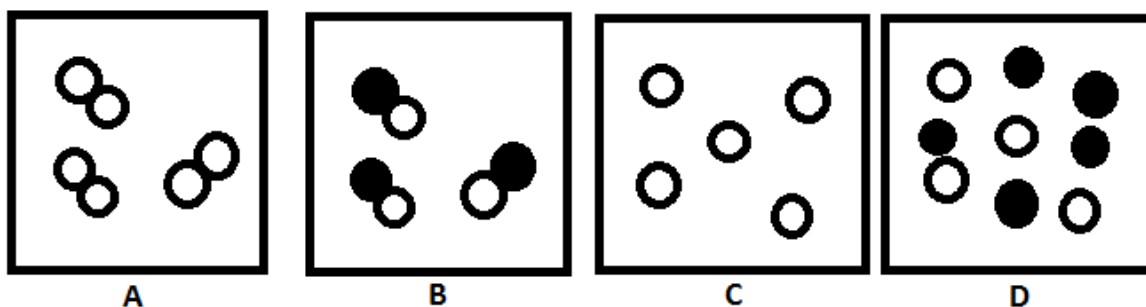
b) how the particles fill a container

(2 marks)

11. List 2 examples of physical properties of matter:

(2 marks)

12. The diagrams below represent the arrangement of particles in four different gases. In the space below, correctly identify each one as an **element**, a **compound** or a **mixture**. (Use one label twice)



_____ (2 marks)

13. Alice and Joanne placed a piece of metal in a test tube of liquid and made 5 observations about the reaction they witnessed, which they recorded in the table below:

Observations	Results	
	Start	Finish
Temperature	23C	45C
Colour	Colourless	Colourless
Liquid	Clear	Clear
Piece of metal	Can be seen	Can't be seen
Air above test tube	No smell	Strong smell

a. Did Alice and Joanne observe a **physical reaction** or a **chemical reaction**?

_____ (1 mark)

b. Which two observations in the table support your answer to part a? Explain why.

 _____ (4 marks)

14. a) What is the relationship between particle size and the rate of a chemical reaction?

(1 marks)

b) Explain how temperature affects the rate of a chemical reaction, your answer should mention the movement of particles.

(2 marks)

15. Complete the table below by describing the changes as either physical or chemical

Change	Physical or chemical?
Burning a piece of toast	
Dissolving some sugar into water	

(2 marks)

16. Write word equations for each of the following reactions:

a. Magnesium reacts with oxygen to produce magnesium oxide.

(2 marks)

b. Carbon dioxide reacts with water to produce glucose and oxygen.

(2 marks)

17. The railway track in the photograph became twisted and buckled on a hot summer day.



The tracks **expanded** in the heat.

a. What does **expanded** mean?

(1 mark)

b. Explain, by referring to the speed of vibration of particles, why materials expand when they are heated.

(3 marks)

18. Dennis and Zoe were investigating the reaction between hydrochloric acid (HCl) and magnesium (Mg). This reaction produces magnesium chloride (MgCl₂) and hydrogen (H₂).

They wanted to see what effect changing the concentration of acid had on the rate of the reaction. They measured the rate of reaction by timing how long it took to collect 10mls of hydrogen. Their results are in the table:

Acid Concentration (M)	Time to collect H ₂ (s)
0.2	58
0.5	25
1.0	14
2.0	5
4.0	2

a. What was the independent variable in this investigation?

(1 mark)

b. What was the dependent variable in this investigation?

(1 mark)

c. Suggest 2 things Dennis and Zoe would need to keep the same to ensure that this was a fair test

(2 marks)

d. What should Dennis and Zoe have done to get more reliable results?

(1 mark)

END OF EXAM