

Year 9 SCIENCE EXAMINATION
Semester 1, 2017
MULTI-CHOICE - PART A AND
WRITTEN QUESTIONS AND ANSWERS – PART B



**KINROSS
COLLEGE**

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STUDENT NAME:
TEACHER NAME:
DATE:

TIME ALLOWED FOR THIS PAPER:

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 booklets

To be provided by the candidate:

- Pens, pencils, ruler, eraser

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 the paper to familiarise yourself with all of the questions.
2. Use a **blue or black** ballpoint / ink pen for the written answers. Use pencil for drawing the graphs.
3. **Write** your answers for Part A on the Multiple Choice answer sheet and for Part B, in this booklet.
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.

Instructions to candidates

1. Sitting this examination implies that you agree to abide by the examination rules set down by Kinross College.
2. Answer the questions in the space provided.
3. You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
4. A spare page is included at the end of this booklet. It can be used for planning your responses and/or as additional space if required to continue an answer.
 - (a) Planning: If you use the spare page for planning, indicate this clearly at the top of the page. If you choose to use lined paper for planning, ensure your name and the title is clearly printed.
 - (b) Continuing an answer: If you need to use the space to continue an answer give the page number. Fill in the number of the question (s) that you are continuing to answer at the top of the page.
5. This examination contributes towards your report. If you have any questions, please ask them during the ten-minute reading time.

Manage your time wisely. Always provide substantiation (evidence). Make sure that what you have written makes sense.

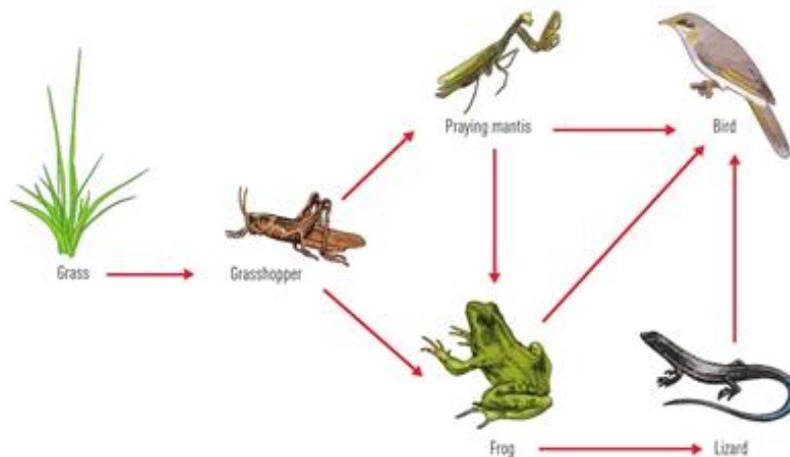
Select and circle the letter a, b, c or d for the most correct answer, on your answer grid

1. The best definition of an ecosystem is:

- a. A community of living organisms and their non-living surroundings
- b. The place where an organism lives
- c. A close relationship between two species
- d. All of the above

2. Organisms like bacteria and fungi that break down dead matter into simple compounds are called:

- a. Herbivores
- b. Producers
- c. Decomposers
- d. Secondary Consumers



3. Which one of the following food chains is correct with reference to the food web shown?

- a. grass → grasshopper → praying mantis → bird → lizard
- b. grasshopper → praying mantis → frog → bird
- c. grass → grasshopper → frog → bird
- d. grass → grasshopper → praying mantis → lizard

4. Consider the following four statements. Photosynthesis:

- I requires carbon dioxide and water.
- II requires glucose and oxygen.
- III produces carbon dioxide and water.
- IV produces glucose and oxygen.

Which of the statements above are correct?

- a. I and IV
- b. II and IV
- c. II and III
- d. I and III

5. Which of the following is a biotic factor?

- a. wind speed
- b. the population number of a particular plant
- c. soil composition
- d. water temperature

6. Which is an example of a predator/ prey relationship?

- a. A horse eating grass
- b. A vine hanging on a tree
- c. A fox eating a rabbit
- d. A tick on a deer

7. A producer's role in an ecosystem is to:

- a) produce offspring
- b) use the sun's energy to produce energy
- c) consume other organisms
- d) none of the above

8. Which of the following is the chemical equation for Respiration?

- a. Glucose + Oxygen \longrightarrow Carbon Dioxide + Water + Energy
- b. Glucose + Carbon Dioxide \longrightarrow Oxygen + Water + Energy
- c. Carbon Dioxide + Water \longrightarrow Oxygen + Glucose + Energy
- d. Carbon Dioxide + Water + Energy \longrightarrow Glucose + Oxygen

9. Which of the following is an example of a parasitism:

- a. A whale eating a fish
- b. A clown fish living in a sea anemone
- c. A tick on a kangaroo
- d. Lichen growing on rock

10. Approximately how much energy is passed on from one trophic level to the next?

- a. 90%
- b. 75%
- c. 50%
- d. 10%

11. What is another name for the windpipe?

- a. Larynx
- b. Lungs
- c. Oesophagus
- d. Trachea

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

- a. Cilia
- b. Mucus
- c. Allergens
- d. Antibodies

13. Nutrients and oxygen are transported to the cells by which system?

- a. Digestive system
- b. Circulatory system
- c. Respiratory system
- d. Nervous System

14. In the lungs alveoli are surrounded by capillaries. This is the place where:

- a. Gases are exchanged
- b. Food is transferred into cells
- c. The balance of water is stabilised
- d. Harmful substances are filtered out

15. When we inhale, which of the following does not occur?

- a. The diaphragm contracts
- b. The chest cavity expands
- c. The ribcage lifts
- d. Air is forced out of the lungs

16. Blood is prevented from moving in the wrong direction by?

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

17. In which direction do arteries transport blood?

- a. Away from the heart
- b. Back to the heart
- c. Towards the legs only
- d. To the lungs only

18. Red cells, white cells, plasma and platelets are all parts of:

- a. Urine
- b. Sweat
- c. Exhaled air
- d. Blood

19. The upper chambers of the heart are called?

- a. Atria
- b. Aortas
- c. Ventricles
- d. Veins

20. The primary role of red blood cells is to:

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

21. Which of these concepts is part of the theory of plate tectonics?

- a. Continents are fixed and don't move.
- b. A great flood shaped the earth's surface.
- c. Continents are in slow constant motion.
- d. None of the above.

22. Which of the earth's layers is broken into several tectonic plates?

- a. Crust
- b. Mantle
- c. Outer core
- d. Inner core

23. Which scientist is credited with proposing the ideas that led to the development of the plate tectonics theory?

- a. Charles Darwin
- b. Albert Einstein
- c. Isaac Newton
- d. Alfred Wegener

24. What type of crust is found under the oceans?

- a. Continental crust
- b. Oceanic crust
- c. Geologic crust
- d. None of the above

25. Mountain formation can result when.... ?

- a. Two oceanic plates collide.
- b. Two continental plates collide.
- c. Two oceanic plates spread apart.
- d. None of the above.

26. Which of these statements is correct?

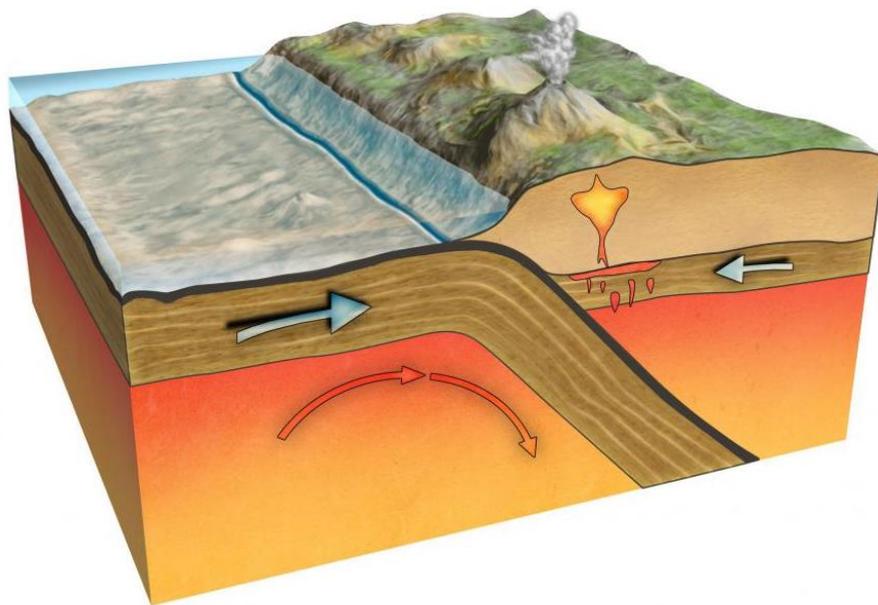
- a. There is no difference between oceanic and continental crust.
- b. Continental crust lies under the oceans.
- c. Oceanic crust is denser than continental crust.
- d. Continental and oceanic crusts have the same thickness.

27. Approximately 225 million years ago, the earth's continents were grouped into one landmass. What is the landmass called?

- a. Europa
- b. Jurassic
- c. Pangaea
- d. Pangaea Ultima

28. This main idea show in this diagram is which of the following?

- a. Earthquake
- b. Mountain formation
- c. Subduction zone
- d. Rift formation



29. What is happening at the subduction zone of the Juan de Fuca and North American Plates?

- a. Plates are sliding past each other.
- b. Plates are spreading apart.
- c. One plate is being pulled under another.
- d. None of the above.

30. Which of the following geologic events can occur at a transform boundary?

- a. Earthquake
- b. Mountain formation
- c. Volcanic eruption
- d. Rift formation

31 What is the border between two tectonic plates called?

- a. Boundary
- b. Collision zone
- c. Rift
- d. Trench

32. The tectonic plates float on which semiliquid layer?

- a. Asthenosphere
- b. Crust
- c. Inner Core
- d. Lithosphere

33. Mid-ocean ridges are places where tectonic plates are doing what?

- a. Colliding
- b. Sliding past each other
- c. Spreading apart
- d. None of the above

34 The three types of plate boundaries are:

- a. Convergent, divergent, transverse
- b. Convergent, digressive, transform
- c. Concave, divergent, transform
- d. Convergent, divergent, transform

35. The slipping, sliding, and colliding of tectonic plates cause:

- a. Volcanic eruptions
- b. Earthquakes
- c. Tsunamis
- d. All of the above

36. Approximately how many lithospheric plates are there?

- a. About 3
- b. About 6
- c. About 12
- d. About 24

37. The movement of the Earth's tectonic plates is driven by....

- a. Conduction currents
- b. Convection zones
- c. Convergence plates
- d. Collision boundaries

38. Harry Hess proposed a mechanism by which continental drift could occur. His theory was called

- a. Seafloor spreading
- b. Plate tectonics
- c. Continental drift
- d. Subduction

39. Compared to continental, oceanic crust is

- a. Denser, older and thicker
- b. Less dense, younger and thicker
- c. Less dense, younger and thinner
- d. Denser, younger and thinner

40. Which of the following geologic events can occur at a transform boundary?

- a. Earthquake
- b. Mountain formation
- c. Volcanic eruption
- d. Rift formation

NAME: _____

YEAR 9 SCIENCE EXAM MULTIPLE-CHOICE ANSWER SHEET

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
21	A	B	C	D
22	A	B	C	D
23	A	B	C	D
24	A	B	C	D
25	A	B	C	D
26	A	B	C	D
27	A	B	C	D
28	A	B	C	D
29	A	B	C	D
30	A	B	C	D
31	A	B	C	D
32	A	B	C	D
33	A	B	C	D
34	A	B	C	D
35	A	B	C	D
36	A	B	C	D
37	A	B	C	D
38	A	B	C	D
39	A	B	C	D
40	A	B	C	D

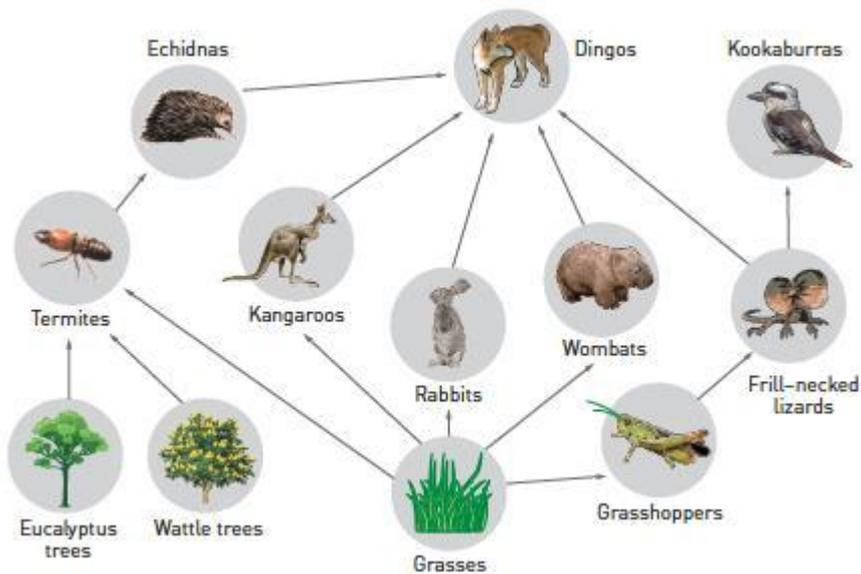
END OF MULTI-CHOICE PART A

COMMENCE WRITTEN ANSWERS – PART B

WRITTEN SECTION – PART B (TOTAL 60 marks)

1. Name a primary producer. What is their role in an ecosystem?

(2 marks)



2. If rabbits could successfully be removed from the ecosystem represented by the food web, suggest two possible benefits to other organisms in the ecosystem.

(2 marks)

1.

2.

6. Describe the changes that take place in your chest as you breathe in and out. (2 marks)

7. Why is it necessary for the blood to circulate through the lungs? (2 marks)

8. What is the main function of: (2 marks)

1. Red blood cells:

2. White blood cells:

3. Platelets:

4. Plasma:

11. Name and describe the three types of movement of plates at plate boundaries. (3 marks)

Name	Description

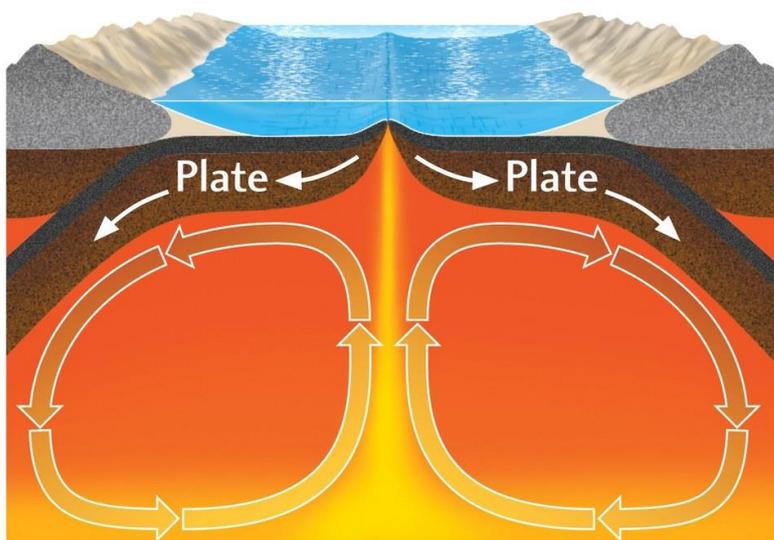
12. List 4 sources of scientific proof that support the theory of continental drift. (4 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

13. What type of boundary (convergent, divergent or transform) is responsible for each of the following features: (3 marks)

- a. Himalaya mountains _____
- b. Mid-Atlantic ridge _____
- c. San Andreas fault _____

14. Label a diagram of the earth, and complete the explanation to show where and how heat and convection currents cause plate movement.



Use the following words to label the your diagram
asthenosphere, core, lithosphere, solid, liquid, convection currents, tectonic

Complete the following explanation ...

The core provides h..... energy that creates c..... c..... which provides enough force to move t..... p..... (6 marks)

15. On the graphing grid (next page), make a Scatter Graph comparing earthquake magnitude against number of deaths (10 marks)

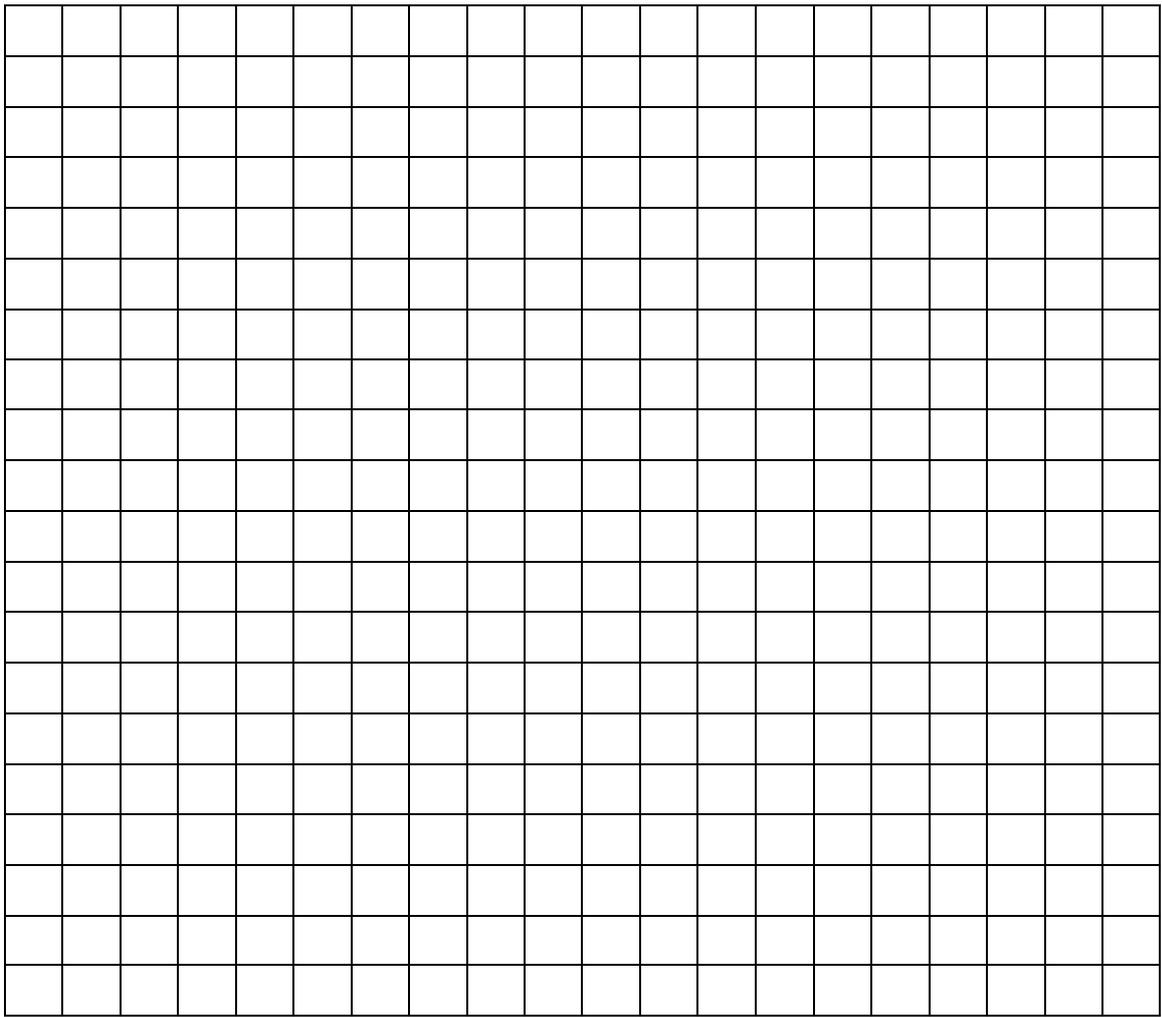
The table below lists the magnitude and death toll of 10 different Earthquakes:

Date	Place	Magnitude (Richter scale)	Number of Deaths (Thousands of people)
2008	China	7.9	374
1990	Iran	7.7	105
1976	Guatemala	7.5	76
2005	Pakistan	7.6	69
1970	Peru	7.9	50
2006	Indonesia	6.3	39
1995	Japan	6.9	37
2010	Haiti	7	30
1985	Mexico	8.1	30
2010	Chile	8.8	12

MARKS –
Title, 1 marks
Labels 2 marks
Units 2 marks
Scale 2 marks
Correctly plotted – 2 marks
Neatly labeled and drawn in pencil (1 mark)

16. Does the graph, you have made for the previous question, show any relationship between the number of deaths and the magnitude of the earthquake? Explain your answer (3 marks)

17. What do scientists call the energy waves that can be recorded when an earthquake occurs? (1 mark)



Spare sheet:

END OF EXAMINATION