

**YEAR 9 SCIENCE
EXAMINATION - SEMESTER 2, 2015**



MULTIPLE CHOICE BOOKLET 1

**KINROSS
COLLEGE**
Believe · Act · Achieve

STUDENT'S NAME:
TEACHER'S NAME:
DATE:

TIME ALLOWED FOR THIS EXAM: (Book 1 and Book 2 combined)

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 the graph.
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 this page until you are asked to do so.

	Marks
Earth Science- Tectonic Forces	/22
Physics- energy	/18
Total	/40

Select and circle the letter **a, b, c** or **d** for the **most correct answer**..

1. 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.

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

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

3. 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

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

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

6. 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.

7. Which of these statements is correct?

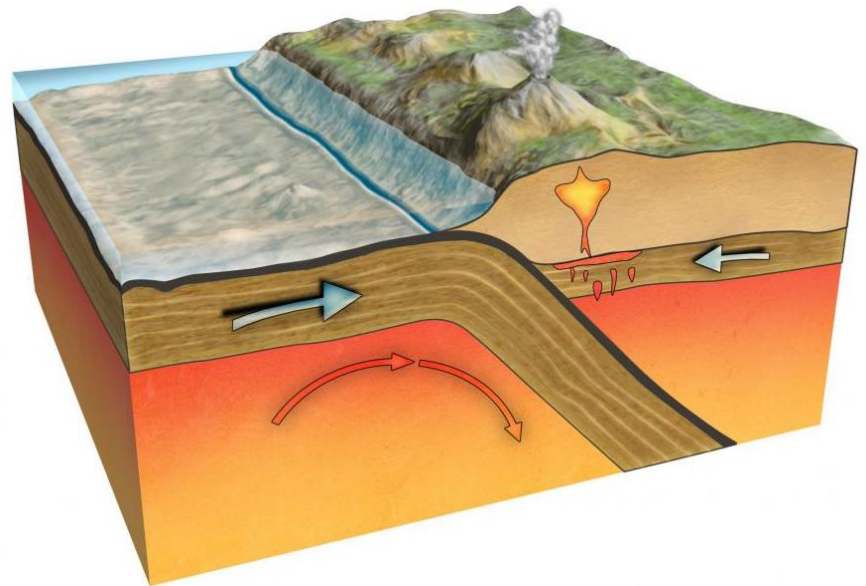
- a. Continental crust is thicker than oceanic crust.
- b. Continental crust is thinner than oceanic crust.
- c. Oceanic crust is thicker than continental crust.
- d. Continental and oceanic crusts have the same thickness.

8. 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

9. This diagram depicts which of the following?

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



10. 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.

11. What kind of plate boundary runs across Iceland?

- a. Convergent boundary
- b. Divergent boundary
- c. Nordic boundary
- d. Transform boundary

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

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

13. Which of these layers is found directly above the earth's core?

- a. Asthenosphere
- b. Inner Core
- c. Mantle
- d. Outer Core

14. What is the border between two tectonic plates called?

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

15. The tectonic plates float on which semiliquid layer?

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

16. 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

17. The three types of plate boundaries are:

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

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

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

19. Approximately how many lithospheric plates are there?

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

20. Movement of the Earth's plates is driven by....

- a. Conduction
- b. Convection
- c. Convergence
- d. Collision

21. Iceland is about 250 km wide and is widening by 2 to 5 cm per year. Assuming an average of 5 cm per year, calculate how long ago Iceland formed.

- a. 50 million years ago
- b. 5 million years ago
- c. 200 million years ago
- d. 20 million years ago

22. If geologists determine that Iceland began to form 12.5 million years ago, what can you deduce?

- a. The Atlantic Ocean is much older than previously thought.
- b. The rate of separation of the plates at the ridge is greater than 5 cm per year.
- c. The magnetic striping evidence must be wrong.
- d. The rate of seafloor spreading is less than 5 cm per year.

23. What type of energy cannot travel across space?

- a. Sound energy
- b. Light energy
- c. Radio energy
- d. Heat energy

24. The part of the ear that provides us with our sense of balance is the:

- a. semi-circular canals
- b. Eustachian tube
- c. oval window
- d. pinna

25. Sound is a longitudinal wave. This means that its particles :

- a. vibrate back and forth
- b. move along with the wave
- c. vibrate from side to side
- d. do not move at all

26. Which part of the eye contains rod cells and cone cells ?

- a. iris
- b. pupil
- c. retina
- d. optic nerve

27. An incandescent object...

- a. emits heat only
- b. emits heat and light
- c. emits light only
- d. is one that is on fire

28. Which of the following sources produces mostly light energy?

- a. microwave oven
- b. match flame
- c. fluorescent tube
- d. portable radio

29. Your hand feels cold as an ice-block melts on it. Identify the correct explanation for this process.

- a. Heat has transferred from the ice-block into your hand by conduction.
- b. Heat has transferred from your hand to the ice-block by conduction.
- c. Heat has transferred from the ice-block into your hand by radiation.
- d. Heat has transferred from your hand to the ice-block by radiation.

30. Heat generally moves from one area to another area that is...

- a. warmer.
- b. cooler.
- c. closer to the outside.
- d. made of a different substance.

31. Conduction involves particles

- a. increasing in size but fixed in position.
- b. moving away from the area that is warmest.
- c. passing vibrations along to nearby particles.
- d. leaving the surface of the substance being heated.

32. Thermal blankets used by rescue teams have a silvered inner lining to...

- a. conduct heat towards the patient.
- b. reflect heat emitted by a person back towards her or him.
- c. absorb heat from the surroundings.
- d. emit excess heat from the patient.

33. Temperature is the measurement of ...

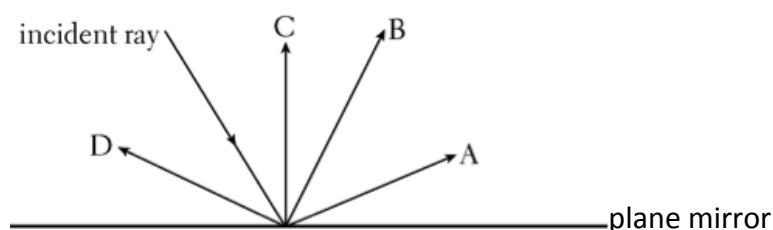
- a. how many particles are present
- b. the average kinetic energy of particles
- c. how much something will burn
- d. the total energy of all particles

34. Which device is used in a hand lens to magnify the words on a page?

- a. rectangular prism
- b. triangular prism
- c. convex lens
- d. concave lens

35. The law of reflection states that the angle of incidence is equivalent to the angle of reflection.

Which labelled ray below (a, b, c or d) is reflected from the incident ray – if the surface is a plane mirror?



36. The surface of a desk or page from a book does not usually produce a clear image of your face when you look at it.

This is because....

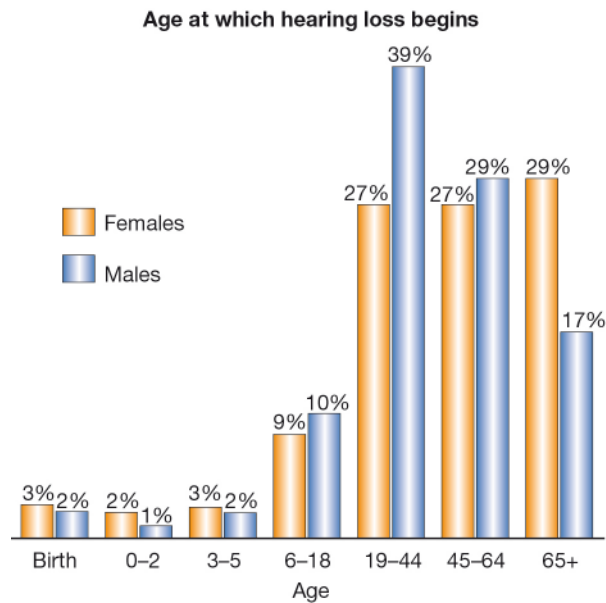
- a. the angle of incidence does not equal the angle of reflection for such surfaces.
- b. the surface absorbs too much light.
- c. you are not far enough away to see the image.
- d. the reflection is diffuse because the surface is not smooth.

37. A convex lens is a piece of glass or plastic used to bend light. It is:

- a. even in thickness
- b. narrower at each end than at its centre
- c. wider at each end than at its centre
- d. narrow at one end and thick at the opposite end

Use the following information to answer questions 38 and 39 .

Look at the graph that compares the typical hearing loss that occurs at specific age intervals for men and women.



38. The age bracket when males tend to suffer the greatest percentage of hearing loss is:

- a. 6-18
- b. 19-44
- c. 46-64
- d. 65+

39. The age bracket when females tend to suffer the greatest percentage hearing loss is:

- a. 6-18
- b. 19-44
- c. 46-64
- d. 65+

Material	Speed of sound (m/s)
Air (at 0°C)	331
Air (at 18°C)	342
Water	1440
Wood	4500
Steel	5100
Glass	5200

Table

38.1 The approximate speed of sound in various materials and at different temperatures.

40. By looking at this data you could conclude that:

- a. sound travels faster through substances that are more dense
- b. sound travels at the same speed through all materials
- c. sound travels faster at cooler temperatures
- d. sound cannot pass through glass

END of Multiple choice questions.

PROCEED WITH WRITTEN ANSWER QUESTIONS! (BOOKLET 2)