

EOT 1 Exam Revision Questions and Answers 2025-2026 Gr 8 Science

1. **To decide whether an object has changed position you must know its position**
 - A. relative to a clock
 - B. relative to another object
 - C. in kilometers
 - D. on a map key
2. **A cyclist travels 60 km in 2 h. The average speed is**
 - A. 120 km/h
 - B. 30 km/h
 - C. 60 km/h
 - D. 30 km
3. **On a distance–time graph, constant speed is shown by**
 - A. a curved line
 - B. a horizontal line
 - C. a straight line sloping upward
 - D. a vertical line
4. **Newton’s Second Law is correctly summarized by**
 - A. $F = m \times d$
 - B. $F = m \times a$
 - C. $a = F \times m$
 - D. $m = F \times a$
5. **A 10 kg object rests on a flat Earth surface. Its weight is about**
 - A. 10 N
 - B. 98 N
 - C. 10 kg
 - D. 0.98 N
6. **If you push a wall with 60 N and it does not move, the wall pushes on you with**
 - A. 0 N
 - B. 60 N downward
 - C. 60 N back
 - D. 120 N
7. **The force that always acts opposite to the direction of motion is**
 - A. gravity
 - B. applied force
 - C. friction
 - D. normal force
8. **A train moves at constant speed along a straight track. Which statement is true?**
 - A. No forces act on the train.
 - B. Engine force equals friction force.
 - C. An unbalanced force keeps it moving.
 - D. Weight is zero.

9. The weight of a 2 kg book on a desk is approximately
- A. 2 N
 - B. 20 N
 - C. 2 kg
 - D. 0.2 N
10. A driver travels 30 km west at 50 km/h for 45 min. Has the driver reached the office 30 km away?
- A. Yes, exactly
 - B. No, 7.5 km short
 - C. No, 7.5 km past
 - D. Cannot tell
11. Fossils found in sedimentary rocks help scientists learn about
- A. absolute ages in years
 - B. past environments
 - C. core temperature
 - D. magnetic reversals
12. The principle that sedimentary layers are originally deposited horizontally is the
- A. principle of superposition
 - B. principle of original horizontality
 - C. principle of cross-cutting
 - D. principle of inclusions
13. A layer of sedimentary rock resting directly on eroded metamorphic rock shows
- A. a disconformity
 - B. a nonconformity
 - C. angular unconformity
 - D. conformity
14. The relative age of a fault that cuts across rock layers is
- A. older than the layers
 - B. younger than the layers
 - C. the same age
 - D. not related
15. Marine fossils discovered high in a mountain range indicate that
- A. the area was once underwater
 - B. the rocks are igneous
 - C. the mountain is still growing
 - D. erosion has stopped
16. If an object returns to its starting point, its displacement is
- A. equal to the total distance
 - B. zero
 - C. twice the distance
 - D. negative distance

17. Two 5 kg masses are 2 m apart. Halving the distance between them will make the gravitational force
- A. half as great
 - B. twice as great
 - C. four times as great
 - D. one-quarter as great
18. A free-body diagram of a book resting on a table must include
- A. weight only
 - B. weight and friction
 - C. weight and normal force
 - D. normal force only
19. Newton's First Law is often called the law of
- A. acceleration
 - B. universal gravitation
 - C. inertia
 - D. action–reaction
20. When forces on an object are balanced, the object
- A. must be stationary
 - B. must be moving
 - C. has zero net force
 - D. is always speeding up
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Short Answer / Calculation (2 marks each)

21. A bus travels 130 km at an average speed of 52 km/h. How long does the journey take? (Show working.)
22. State two everyday examples where an object moves at approximately constant speed and briefly explain how you know the speed is constant.
23. A 0.60 kg ball rests on a balance scale. Calculate its weight on Earth and draw the free-body diagram for this situation.
24. Name two geological principles used to determine the relative age of rock layers and briefly describe each.
25. A cyclist's odometer reads 15 km after a ride, but the cyclist finishes at the starting point.
- a. What is the total distance travelled?
 - b. What is the cyclist's displacement?

Answers

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

21. time = distance / speed = 130 km / 52 km/h = 2.5 h (2 h 30 min)

22. **Any two reasonable examples, e.g.**

- Cruise-control car on a flat highway (speedometer stays fixed)
 - International Space Station in circular orbit (constant orbital speed)
- Accept any clear explanation referencing unchanging distance–time graph or speedometer reading.

23. Weight = $m \times g$

= $0.60 \text{ kg} \times 9.8 \text{ m/s}^2 \approx 5.9 \text{ N}$ downward; free-body diagram shows downward arrow labelled “weight (5.9 N)” and equal upward arrow labelled “normal force”.

24. Superposition: in an undisturbed sequence, the oldest layer is at the bottom.

Original horizontality: sediments are deposited in flat layers; if tilted, deformation occurred after deposition. (Any other valid principles also accepted.)

25. a. Distance = 15 km

b. Displacement = 0 km because start and finish positions are identical.