1.7 Health, Lifestyle and Drugs: Test Pack

Calculator allowed · about 20 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Name one nutrient that is important for growth and repair in the body.

(1)

2 Explain how smoking during pregnancy can affect the developing baby. Mention at least one specific effect and the mechanism by which smoking causes it.

(4)

3 A survey records that pupils who sleep less than 6 hours per night report more tiredness and lower concentration in class. Explain two ways poor sleep could lead to poorer school performance, linking biological effects to the outcomes.

(4)

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4 A survey recorded the resting heart rates of five adults who exercised for different numbers of hours each week.

Hours of exercise per week: 0, 2, 4, 6, 8
Resting heart rate (beats per minute): 78, 72, 68, 65, 62

Describe the pattern in the results and calculate the mean resting heart rate of the three adults who exercised for 4 hours or more a week.

(3)

5 A student times how long it takes Kwame to run 400 m. Kwame runs it in 1 minute 40 seconds. Calculate Kwame's average speed in metres per second (m/s).

(3)

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Mark scheme · 1.7 Health, Lifestyle and Drugs: Test Pack

Question 1

any one of: protein, vitamins, minerals (eg calcium), oe — **B1**

Answer: **Protein (for example).**

Question 2

identify a specific effect on the baby (eg low birth weight, increased risk of premature birth, breathing problems) — **M1**

state a mechanism (eg carbon monoxide reduces oxygen in mothers blood; nicotine reduces blood flow to placenta) — **M1**

link mechanism to effect (eg reduced oxygen supply causes slower growth and lower birth weight) — **A1**

explicitly state that these risks are increased if the mother smokes during pregnancy cao — **A1**

Answer: **Smoking can cause low birth weight and increase premature birth risk because carbon monoxide reduces oxygen carried in the mother's blood and nicotine reduces blood flow to the placenta, so the baby gets less oxygen and nutrients.**

Question 3

identify one biological effect of poor sleep (eg reduced concentration, impaired memory consolidation, slower reaction times) — **M1**

explain how that biological effect causes poorer school performance (eg impaired memory makes learning and recall harder) — **M1**

identify a second biological effect (eg increased tiredness, mood changes affecting motivation) — **M1**

explain link from second effect to performance (eg tiredness lowers attention in lessons, mood lowers participation) cao — **A1**

Answer: **Poor sleep reduces memory consolidation and concentration, so pupils find it harder to learn and recall information; it also causes tiredness and mood changes that lower attention and motivation in class.**

Question 4

as the hours of exercise increase, the resting heart rate decreases (or lower resting heart rate with more exercise), oe — **B1**

(68 + 65 + 62) / 3 seen, or 195 / 3 — **M1**

65 (beats per minute) cao — **A1**

Answer: **The more hours of exercise per week, the lower the resting heart rate. Mean = (68 + 65 + 62) / 3 = 65 beats per minute.**

Question 5

convert time and substitute speed = distance / time: 400 / 100 — **M1**

4.0 m/s cao — **A1**

speed stated with correct unit m/s — **B1**

Answer: **4.0 m/s**

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