ENGLAND GCSE COMBINED SCIENCE AQA SYNERGY FOUNDATION · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles move freely
- B particles flow past each other easily
- C particles vibrate in fixed positions
- D particles are far apart

Understand It with Pulse | Flag a mistake

2 **A school lunch tray holds a bread roll, cheese and an apple. Which food test would show starch in the bread roll?**

- A iodine turns blue-black
- B Benedict's turns brick red
- C Sudan III turns red
- D Biuret turns purple

Understand It with Pulse | Flag a mistake

3 **Seabirds on a rocky island eat fish. If the fish population falls, what happens to the seabirds?**

- A they eat more fish
- B their numbers rise
- C their numbers fall
- D they move to the sea

Understand It with Pulse | Flag a mistake

4 **A castle is built of limestone. What is limestone made of?**

- A calcium sulfate, found in plaster
- B calcium carbonate
- C magnesium oxide, a white powder
- D sodium chloride, common salt

Understand It with Pulse | Flag a mistake

5 **Paintbrushes are used with paint. What is paint an example of?**

- A a compound
- B an element
- C a pure substance
- D a formulation

Understand It with Pulse | Flag a mistake

6 **A rocket is pushed up by hot gases. What is the upward force called?**

- A weight
- B drag
- C lift
- D thrust

Understand It with Pulse | Flag a mistake

7 **A tennis ball is hit across a court. Which force slows the ball down in the air?**

- A friction with the ground
- B the hit
- C gravity
- D air resistance

Understand It with Pulse | Flag a mistake

8 **A cup of coffee is hot. How is energy transferred to the air?**

A by evaporation only, from the top

B by conduction and convection

C by radiation only, from the surface

D by condensation on the cold cup

Understand It with Pulse | Flag a mistake

9 **Potatoes are placed in pure water. What happens to the potato cells?**

A they gain water

B they stay the same

C they lose water

D they burst

Understand It with Pulse | Flag a mistake

10 **Blood is 55 percent plasma. How much plasma is there in 100 mL of blood?**

A 110 mL

B 65 mL

C 55 mL

D 45 mL

Understand It with Pulse | Flag a mistake

11 **What do white blood cells do to pathogens?**

A carry them in the blood

B engulf and digest them

C make them reproduce

D feed them

Understand It with Pulse | Flag a mistake

12 **What is one effect of climate change?**

- A sea levels rising
- B less rain everywhere
- C colder winters everywhere
- D the air getting cleaner

Understand It with Pulse | Flag a mistake

13 **How many electrons are in the outer shell of a Group 7 element?**

- A 7
- B 2
- C 8
- D 1

Understand It with Pulse | Flag a mistake

14 **What force is needed to accelerate a 5 kg object at 5 m/s squared?**

- A 25 N
- B 50 N
- C 12.5 N
- D 30 N

Understand It with Pulse | Flag a mistake

15 **A red race car travels at a steady speed. What is the resultant force on the car?**

- A 1000 N
- B 100 N
- C 0 N
- D 500 N

Understand It with Pulse | Flag a mistake

16 **Which gas causes acid rain?**

A oxygen

B sulfur dioxide

C nitrogen

D carbon dioxide

Understand It with Pulse | Flag a mistake

17 **An object has a mass of 20 g and a volume of 20 cubic centimetres. What is its density?**

A 0.5 g/cm³

B 1 g/cm³

C 40 g/cm³

D 2 g/cm³

Understand It with Pulse | Flag a mistake

18 **A passenger train carries people around the country. Which part of the blood is like the train, carrying oxygen around the body?**

A plasma

B white blood cells

C red blood cells

D platelets

Understand It with Pulse | Flag a mistake

19 **A population grows from 200 to 250. What is the increase?**

A 100

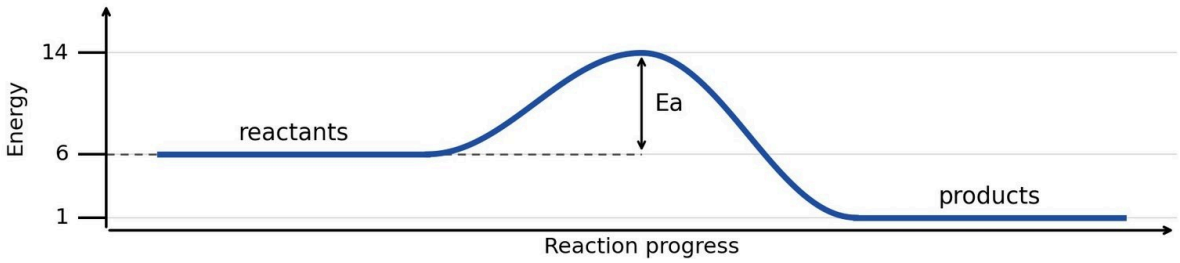
B 50

C 60

D 40

Understand It with Pulse | Flag a mistake

20 **The diagram shows the energy profile for a reaction. The reactants are at energy 6, the peak is at 14 and the products are at 1. What is the activation energy?**



A 13

B 20

C 8

D 5

Understand It with Pulse | Flag a mistake

21 **Which particle has a positive charge?**

A the electron

B the neutron

C the nucleus

D the proton

Understand It with Pulse | Flag a mistake

22 **An object travels 400 m in 10 seconds. What is its speed?**

A 4000 m/s

B 80 m/s

C 20 m/s

D 40 m/s

Understand It with Pulse | Flag a mistake

23 **A device transfers 200 J of energy in 20 seconds. What is its power?**

- A 5 W
- B 10 W
- C 4000 W
- D 20 W

Understand It with Pulse | Flag a mistake

24 **About what percentage of the air is oxygen?**

- A 1%
- B 21%
- C 78%
- D 0.04%

Understand It with Pulse | Flag a mistake

25 **Which of these is found in a plant cell but not in an animal cell?**

- A a nucleus
- B a mitochondrion
- C a chloroplast
- D a ribosome

Understand It with Pulse | Flag a mistake

26 **Blood is 55 percent plasma. How much plasma is there in 200 mL of blood?**

- A 110 mL
- B 120 mL
- C 100 mL
- D 220 mL

Understand It with Pulse | Flag a mistake

27 **Which of these is a risk factor for lung cancer?**

A smoking

B eating vegetables

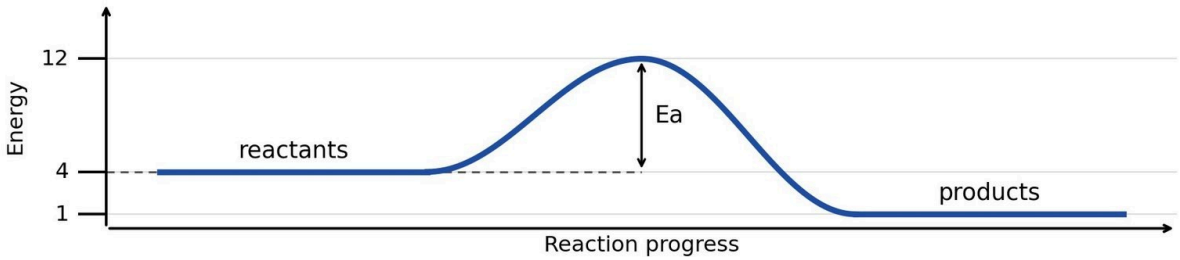
C exercising

D drinking water

Understand It with Pulse | Flag a mistake

28

The diagram shows the energy profile for a reaction. The reactants are at energy 4, the peak is at 12 and the products are at 1. What is the activation energy?



A 11

B 16

C 3

D 8

Understand It with Pulse

Flag a mistake

29 **How many moles are there in 40 g of a substance with a relative formula mass of 40?**

A 0.5

B 2

C 3

D 1

Understand It with Pulse | Flag a mistake

30 **Which of these travels as a transverse wave?**

A a seismic P wave

B a water wave in a pond

C sound

D light

Understand It with Pulse | Flag a mistake

31 **A 10 kg object is lifted 2 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 400 J
- B 20 J
- C 100 J
- D 200 J

Understand It with Pulse | Flag a mistake

32 **A solar panel produces 200 W of power. How much energy does it produce in 5 hours?**

- A 900 Wh
- B 1100 Wh
- C 2000 Wh
- D 1000 Wh

Understand It with Pulse | Flag a mistake

33 **A swimming pool is heated. What happens to the water particles?**

A they stop moving

B they get smaller

C they move faster

D they disappear

Understand It with Pulse | Flag a mistake

34 **In a reflex, where does the impulse go after the receptor?**

A to the brain first

B straight to the effector

C to a relay neurone

D to a hormone

Understand It with Pulse | Flag a mistake

35 **A river flows to the sea. What is this part of?**

A the water cycle

B the nitrogen cycle

C the rock cycle

D the carbon cycle

Understand It with Pulse | Flag a mistake

36 **Rabbits with white fur survive better in snow. What is this an example of?**

A artificial selection

B natural selection

C extinction

D mutation

Understand It with Pulse | Flag a mistake

37 **Paintbrushes apply paint to a wall. What is the paint made of?**

A a single compound, nothing else

B pure water with nothing in it

C a mixture of substances

D a single element, nothing else

Understand It with Pulse | Flag a mistake

38 **A passenger train brakes. What force slows it down?**

A thrust

B friction

C gravity, pulling it down

D lift

Understand It with Pulse | Flag a mistake

39 **A Ferris wheel turns. What force keeps a person moving in a circle?**

A gravity only, pulling them down

B friction only, gripping the seat

C air resistance pushing them back

D centripetal force

Understand It with Pulse | Flag a mistake

40 **Fishing boats catch fish. What trophic level are the fish?**

A producers

B decomposers

C consumers

D plants

Understand It with Pulse | Flag a mistake

41 **Glass marbles are shaken in a tray. What does this model?**

A particles freezing into place

B particles gaining energy

C particles disappearing completely

D particles bonding together

Understand It with Pulse | Flag a mistake

42 **A school lunch tray holds a meal with milk. Which nutrient is milk rich in?**

A calcium

B vitamin C

C iron

D fibre

Understand It with Pulse | Flag a mistake

43 **A honeybee moves pollen between flowers. What is this an example of?**

- A pollination
- B germination
- C fertilisation
- D photosynthesis

Understand It with Pulse | Flag a mistake

44 **What happens to the temperature during an endothermic reaction?**

- A it rises then falls
- B it falls
- C it rises
- D it stays the same

Understand It with Pulse | Flag a mistake

45 **What is the relative formula mass of water, H_2O?**

- A 18
- B 16
- C 20
- D 10

Understand It with Pulse | Flag a mistake

46 **A guitar is plugged into an amplifier. What flows through the cable?**

- A electric current
- B light
- C sound waves travelling along it
- D water

Understand It with Pulse | Flag a mistake

47 **An object speeds up from 0 m/s to 10 m/s in 10 seconds. What is its acceleration?**

- **A** 0.5 m/s²
- **B** 2 m/s²
- **C** 10 m/s²
- **D** 1 m/s²

Understand It with Pulse | Flag a mistake

48 **A cheese pizza contains cheese made from milk. What is milk rich in?**

- **A** iron
- **B** vitamin C
- **C** fibre
- **D** calcium

Understand It with Pulse | Flag a mistake

49 **A swimming pool is filled with water. What is the density of water?**

A about 1 kilogram per cubic metre

B about 10 kilograms per cubic metre

C about 1000 kilograms per cubic metre

D about 100 kilograms per cubic metre, roughly

Understand It with Pulse | Flag a mistake

50 **Which neurone carries the impulse from the CNS to the effector?**

A a sensory neurone

B a motor neurone

C a relay neurone

D a receptor neurone

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. C
2. A
3. C
4. B
5. D
6. D
7. D
8. B
9. A
10. C
11. B
12. A
13. A
14. A
15. C
16. B
17. B
18. C
19. B
20. C
21. D
22. D
23. B
24. B
25. C
26. A
27. A
28. D
29. D
30. D
31. D
32. D
33. C
34. C
35. A
36. B
37. C
38. B
39. D
40. C
41. B
42. A
43. A
44. B
45. A
46. A
47. D
48. D
49. C
50. B

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