ENGLAND GCSE COMBINED SCIENCE EDEXCEL HIGHER · UNIT 29 · 25 QUESTIONS

# Forces and Matter — 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 so it can be fixed.

**1** **Hardcover books have mass. What is mass measured in?**

- A kilograms
- B joules
- C watts
- D newtons, the unit of force

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

- A particles disappearing completely
- B particles bonding together
- C particles gaining energy
- D particles freezing into place

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3 **A wristwatch ticks every second. How many ticks in a minute?**

- A 30
- B 60
- C 100
- D 12

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4 **A cardboard box is full of books. What is its mass like?**

- A the same as when empty
- B zero
- C larger than when empty
- D smaller than when empty

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5 **A ladder is used to reach a roof. What is the ladder an example of?**

A a simple machine

B a lever only

C a complex machine

D a power source

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6 **A calculator uses a battery. What energy is stored in the battery?**

A chemical energy

B light energy from the Sun

C kinetic energy of motion

D thermal energy from heat

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7 **A spring is stretched and then released. What happens to the stored elastic potential energy?**

A it becomes heat only

B it stays in the spring for ever

C it becomes kinetic energy

D it disappears

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8 **A spring with spring constant 50 N/m is stretched by 0.2 m. Calculate the elastic potential energy stored in J.**

A 1

B 0.5

C 4

D 2

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9 **A spring has a spring constant of 10 N/m. It is stretched by 0.4 m. Calculate the force in N.**

- A 4
- B 19
- C 2
- D 8

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10 **A spring has a spring constant of 40 N/m. It is stretched by 2 cm. What is the elastic potential energy stored?**

- A 0.008 J
- B 0.032 J
- C 0.004 J
- D 0.016 J

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11 **What is inelastic behaviour?**

A breaking as soon as a force is applied

B melting when a force is applied

C not returning to the original shape

D returning to the original shape at once

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12 **A spring has a spring constant of 50 N/m. It is stretched by 10 cm. What is the force?**

A 5 N

B 5.5 N

C 10 N

D 2.5 N

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13 **What happens to a spring if it is stretched past its limit of proportionality?**

- A it gets stronger
- B it stays stretched
- C it stops stretching
- D it snaps at once

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14 **A spring has a spring constant of 50 N/m. It is stretched by 0.2 m. Calculate the force in N.**

- A 25
- B 5
- C 20
- D 10

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**15** **A spring has a spring constant of 50 N/m. It is stretched by 10 cm. What is the elastic potential energy stored?**

- A 0.5 J
- B 0.25 J
- C 1 J
- D 0.125 J

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**16** **What is Hooke's law?**

- A force is always equal to the extension
- B extension is proportional to the square of the force
- C extension does not depend on the force
- D force is proportional to extension

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17 **A spring has a spring constant of 25 N/m. It is stretched by 10 cm. What is the force?**

- A 2.5 N
- B 5 N
- C 1.25 N
- D 3 N

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18 **What is elastic potential energy?**

- A energy of a hot object
- B energy of movement
- C stored stretch energy
- D energy stored in a fuel

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19 **A spring with spring constant 200 N/m is stretched by 0.2 m. Calculate the elastic potential energy stored in J.**

- A 4
- B 8
- C 2
- D 16

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20 **A spring has a spring constant of 10 N/m. It is stretched by 0.1 m. Calculate the force in N.**

- A 1
- B 16
- C 0.5
- D 2

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**21** **A spring has a spring constant of 100 N/m. It is stretched by 10 cm. What is the elastic potential energy stored?**

- A 1 J
- B 2 J
- C 0.25 J
- D 0.5 J

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**22** **A spring has a spring constant of 20 N/m. It is stretched by 10 cm. What is the force?**

- A 2.5 N
- B 2 N
- C 4 N
- D 1 N

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**23** **A spring has a spring constant of 20 N/m. It is stretched by 0.1 m. Calculate the force in N.**

- A 17
- B 4
- C 1
- D 2

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**24** **A spring has a spring constant of 50 N/m. It is stretched by 5 cm. What is the elastic potential energy stored?**

- A 0.0625 J
- B 0.0313 J
- C 0.125 J
- D 0.25 J

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25

**A spring has a spring constant of 25 N/m. It is stretched by 5 cm. What is the force?**

A 1.75 N

B 1.25 N

C 2.5 N

D 0.625 N

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# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | A | **10.** | A | **19.** | A |
| **2.** | C | **11.** | C | **20.** | A |
| **3.** | B | **12.** | A | **21.** | D |
| **4.** | C | **13.** | B | **22.** | B |
| **5.** | A | **14.** | D | **23.** | D |
| **6.** | A | **15.** | B | **24.** | A |
| **7.** | C | **16.** | D | **25.** | B |
| **8.** | A | **17.** | A | | |
| **9.** | A | **18.** | C | | |

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