ENGLAND GCSE COMBINED SCIENCE EDEXCEL FOUNDATION · 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 **A calculator uses a battery. What energy is stored in the battery?**

- A kinetic energy of motion
- B chemical energy
- C light energy from the Sun
- D thermal energy from heat

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

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

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3 **Glass marbles are used to model atoms. What is a limitation of the model?**

A marbles are the wrong colour for atoms

B marbles are much bigger than atoms

C marbles are too small to see properly

D marbles cannot be counted accurately at all

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4 **Hardcover books are dropped. What happens to their speed as they fall?**

A it stays the same

B it increases

C it decreases

D it becomes zero

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5 **A wristwatch is used to time a race. What is speed calculated from?**

A time only, not distance

B distance and time

C mass and time together

D distance only, not time

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

A a power source

B a simple machine

C a complex machine

D a lever only

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

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

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8 **What is elastic potential energy?**

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

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

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

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10 **A spring with spring constant 50 N/m is stretched by 0.1 m. Calculate the elastic potential energy stored in J.**

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

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11 **A spring has a spring constant of 20 N/m. It is stretched by 2 cm. What is the elastic potential energy stored?**

- A 0.002 J
- B 0.016 J
- C 0.008 J
- D 0.004 J

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12 **What happens to the extension if the force doubles?**

- A it increases by four times
- B it doubles
- C it stays the same as before
- D it halves, becoming smaller

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13 **A spring has a spring constant of 20 N/m. It is stretched by 0.5 m. Calculate the force in N.**

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

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14 **What is the limit of proportionality for a spring?**

- A the point where the spring is longest
- B force stops matching extension
- C the point where no force is needed
- D the point where the spring breaks

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15 **A spring has a spring constant of 50 N/m. It is stretched by 5 cm. What is the force?**

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

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16 **A spring with spring constant 100 N/m is stretched by 0.2 m. Calculate the elastic potential energy stored in J.**

- **A** 1
- **B** 4
- **C** 2
- **D** 8

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17 **A spring has a spring constant of 20 N/m. It is stretched by 5 cm. What is the elastic potential energy stored?**

A 0.1 J

B 0.025 J

C 0.0125 J

D 0.05 J

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18 **What happens to a spring stretched past its limit of proportionality?**

A it turns into a different metal

B it does not return to its original length

C it becomes stronger than before

D it returns to its original length at once, unchanged

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19 **A spring has a spring constant of 25 N/m. It is stretched by 0.1 m. Calculate the force in N.**

- A 5
- B 1.25
- C 2.5
- D 17.5

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

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

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21 **A spring has a spring constant of 10 N/m. It is stretched by 0.2 m. Calculate the force in N.**

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

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

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23 **A spring has a spring constant of 100 N/m. It is stretched by 5 cm. What is the elastic potential energy stored?**

- A 0.125 J
- B 0.25 J
- C 0.0625 J
- D 0.5 J

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24 **A spring has a spring constant of 50 N/m. It is stretched by 0.4 m. Calculate the force in N.**

- A 20
- B 10
- C 40
- D 35

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25 **A spring has a spring constant of 20 N/m. It is stretched by 2 cm. What is the force?**

A 0.4 N

B 0.9 N

C 0.2 N

D 0.8 N

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ANSWER KEY

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

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