JRA Tutors
Free level-check quiz

GCSE Physics Quiz: Foundation

20 questions · about 30 minutes · calculator allowed

How to use this quiz

1. Try it on your own, without help. You can use a calculator, and the equations are given. Each question is worth 1 mark.

2. Mark yourself using the answer page at the end. Don't peek until you've finished.

3. Send us your score (instructions on the answer page) and we'll tell you what to work on next.

Name: _____ Date: _____ Score: _____ / 20

Equations you can use

speed = distance ÷ time | weight = mass × g (g = 9.8 N/kg) | V = I × R | power = energy ÷ time | wave speed = frequency × wavelength | density = mass ÷ volume | work done = force × distance | force = spring constant × extension | efficiency = useful output ÷ total input | GPE = mass × g × height

1. Which one is a renewable energy resource?

A Coal
B Wind
C Natural gas
D Oil

2. A car travels 90 m in 15 s. Work out its speed in m/s.

Answer: _____

3. A girl has a mass of 50 kg. Work out her weight.

Answer: _____

4. A 12 Ω resistor has a potential difference of 6 V across it. Work out the current.

Answer: _____

5. Which one is the unit of power?

A Joule
B Watt
C Newton
D Volt

6. A lamp transfers 200 J of energy in 4 s. Work out its power.

Answer: _____

7. Sound waves are which type of wave?

A Transverse
B Longitudinal
C Electromagnetic
D Radio

8. A wave has frequency 50 Hz and wavelength 6 m. Work out its wave speed.

Answer: _____

9. What name is given to the force that opposes motion when two surfaces rub together?

Answer: _____

10. Which particles are found in the nucleus of an atom?

A Protons and electrons
B Neutrons and electrons
C Protons and neutrons
D Electrons only

11. A block has a mass of 240 g and a volume of 30 cm^3. Work out its density in g/cm^3.

Answer: _____

12. In a series circuit, what is true about the current?

A It is the same everywhere
B It is biggest near the cell
C It is smallest near the cell
D It splits between branches

13. A force of 20 N pushes a box 5 m. Work out the work done.

Answer: _____

14. A radioactive source has a half-life of 3 days. Its count rate is 80 counts/s. What is the count rate after 6 days?

Answer: _____

15. Which type of radiation is a helium nucleus?

Answer: _____

16. Which part of the electromagnetic spectrum is used in TV remote controls?

Answer: _____

17. A force of 4 N stretches a spring by 0.02 m. Work out the spring constant.

Answer: _____

18. A motor takes in 500 J of energy and gives out 350 J of useful energy. Work out its efficiency as a decimal.

Answer: _____

19. A 2 kg object is lifted 3 m. Work out the gain in gravitational potential energy.

Answer: _____

20. Two magnets are held with their north poles facing each other. What happens?

A They attract
B They repel
C Nothing happens
D They become demagnetised

Answers and score guide

Mark your quiz with a tick or a cross. Each correct answer is 1 mark.

1	B Wind	**11**	8 g/cm^3
2	6 m/s	**12**	A It is the same everywhere
3	490 N	**13**	100 J
4	0.5 A	**14**	20 counts/s
5	B Watt	**15**	Alpha
6	50 W	**16**	Infrared
7	B Longitudinal	**17**	200 N/m
8	300 m/s	**18**	0.7 (or 70%)
9	Friction	**19**	58.8 J
10	C Protons and neutrons	**20**	B They repel

What your score suggests

0–7 — **Building foundations**
Several core ideas need securing first. Start with equations, units and the key words for each topic.

8–13 — **Developing**
A decent base. Practise rearranging equations and show your working to turn near-misses into marks.

14–17 — **Secure**
Working at a solid Foundation level. Next: multi-step calculations and explaining ideas in full sentences.

18–20 — **Strong**
Very secure at Foundation level. Try the Higher quiz to see whether the Higher tier is within reach.

Send us your score

Go to **jratutors.co.uk**, tap **Sign up**, choose **GCSE Physics — Foundation** and type your score in the message box (for example: "Scored 14/20"). If you remember which questions you missed, add those too. We'll reply within 24 hours with what to work on next.

This quiz was written by JRA Tutors for practice. It is a guide to your level, not an official assessment. A free 15-minute diagnostic call gives a fuller picture.