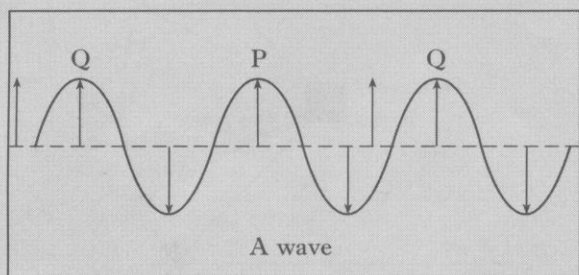


Pocket answer section for SQA General Physics 2002 – 2006

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Physics General Level 2002

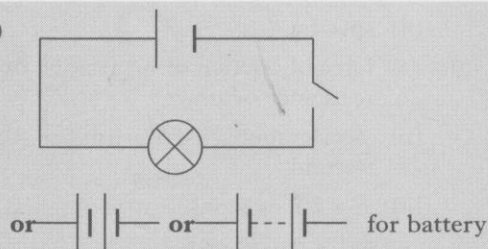
1. E 2. D 3. D
4. B 5. E
6. Radiation P is **gamma**
Radiation Q is **alpha**
7. The particles that make up the nucleus are **protons and neutrons**.
The particles that orbit the nucleus are **electrons**.
8. (a) Speed of light is (far) greater than the speed of sound
(b) 6800 metres
(c) The thunder and/or lightning **or** storm are closer **or** The camper moves **towards** the thunder and lightning
9. (a) (i) Either point Q shown
(ii) Any **one** of lines shown



9. (b)

Quantity	Definition	Unit
wavelength	The shortest distance before the wave pattern repeats	metre or m or cm or mm or km or nm
frequency or freq	Number of waves that pass a point in one second	hertz or Hz or second⁻¹ or s⁻¹ or cycles per second
speed	distance travelled in unit time	metre per second or m/s or m s⁻¹ or cm s⁻¹
amplitude	Distance from the rest position to the top of a crest or the bottom of a trough	metre or m or cm or mm or km or nm

10. (a)



- (b) When the torch is on, **charge** moves around the circuit.
This movement is called a **current**.
- (c) **electrical to light**
- (d) to reflect light
11. (a) (i) two
(ii) live – brown
neutral – blue
- (b) 2 amperes
- (c) (i) 3 amperes
(ii) to protect the flex/hairdryer/appliance
12. (a) Any **two** from
aeroplane; road works/pneumatic drill;
traffic/road/lorries/cars; (noisy) children/
football players; school
- (b) 0 dB
- (c) (i) sounds **greater than** 80 dB
(can) cause damage to hearing/ears
or cause deafness
- (ii) lower: because student is behind glass/inside building
or
higher: because student is closer to the source of sound/lorry
13. (a) **heat to electrical**
- (b) analogue
- (c) (i) 0.0016 A
(= 1.6 mA)
(ii) 7-segment display/LED/LCD
14. (a) microphone
- (b) output voltage/input voltage
- (c) 5000 Hz or “the same”
- (d) Energy = 9000 joules
15. (a) Weight = 400 newtons
- (b) 400 newtons
- (c) Work done = 3000 joules
- (d) power = 25 watts

Physics General Level 2002 (cont.)

16. (a) (i) diameter of ball or chord or suitable dimensions of **ball** eg length, width, height (d)
time for ball to pass through beam (t)
(ii) speed = $\frac{d}{t}$
- (b) (i) force of friction **or** air friction **or** air resistance **or** drag
(ii) acceleration = -0.5 metre per second per second
(iii) $F = 2.5$ newtons
17. (a) (i) fossil fuel (or any one named)
(ii) Any **one** from
will run out/non-renewable/pollution/
cost of extraction/ CO_2 emission
- (b) (i) Any **one** from
free source/renewable/no pollution
(ii) 2.5 m^2
18. (a) 5°C
- (b) (i) Changes from solid to liquid/melts/
changes state/liquifies
(ii) heat from the food
is transferred to the coolant
- (c) to reduce heat transfer from the outside/the surroundings/the air outside
19. (a) (triangular) prism
(b) helium
hydrogen
20. When the rocket rises, it exerts a force **downwards** on the **water** and the **water** exerts a force **upwards** on the rocket.