Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: GCSE Triple Science_Waves (SDQ)

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Mark Schemes

Q1.

(a) (mechanical) vibration(s)

__not__ just 'particles knocking into each other'
not reference to 'sound particles'

1

(b) K

1

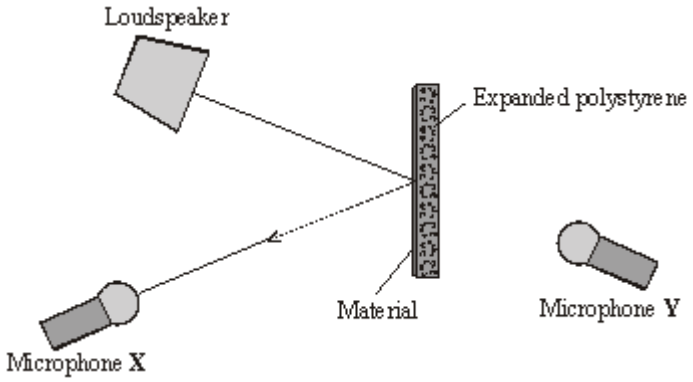
(c) (i) reflected by the material from loudspeaker to microphone X

1

shown by straight lines with angle of incidence = angle of reflection (by eye) **and** at least one arrow in the correct direction

do __not__ credit if the direction is contradicted by any incorrect arrow / may be shown by waves / wavefronts in the direction of straight lines
ignore any sound to Y or which 'misses' the material

example



1

(ii) any **one** from:

- so (the student) can compare results
- so only one (independent) variable
- to get reliable / accurate results
- because (the expanded) polystyrene absorbs some of the sound

do __not__ credit just 'so it's a fair test'

1

(iii) **[A]** wood

1

[B] either 0.25 **or** 1/4 **or** 25 % **or** 15/60 **or** 1: 3

*do **not** credit 1 : 4*

1

(d) practical suggestion

1

appropriate reason / explanation

***example** line / panel the walls with wood / plasterboard / increase the thickness of the plaster (on the walls) (1)*
(this) will absorb / reflect (back) (most / some of) the sound (1)

credit legal suggestions for attempting to limit the noise made by the neighbours
***example** ask the neighbours to make less noise (1)*
by limiting the time(s) music played (1)

*do **not** credit reference to 'sound particles' for second mark*

1

[9]

Q2.

silver is a (good) reflector of <u>heat</u> (radiation) **or**
silver reflects the heat (radiation)

fact
heat = infra red
ignore references to light
accept shiny for silver
good radiator negates the mark

ignore references to good conductor

*do **not** accept bounce back*

1

less heat is lost through the board **or** more heat is retained by the shirt

explanation
accept both sides of shirt heated

*reflects heat back up gets **1** mark only*
ignore mention of friction

1

[2]

Q3.

(a) the outside colour of the cans

1

(b) (i) 18 (°C) **or** 88 to 70

ignore negative sign

1

(ii) 8 (°C) **or** 70 to 62

ignore negative sign

1

(c) greater temperature difference between water and surroundings (at start)

must mention temperature difference

ignore just water hotter

accept energy used to heat cans initially

1

(d) black

1

temperature falls the fastest (in L)

accept (can L) loses more heat / cools quicker

accept heat for temperature

1

black is a good / the best / better emitter (of heat / radiation)

accept converse

ignore black is best absorber

1

[7]