

Praktis Stimulus



Praktis
Ekstra



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Ekstra

Bahagian A

10.1

Ciri-ciri Gelombang Bunyi Characteristics of Sound Waves

- 1 Maklumat berikut menunjukkan beberapa bahan yang digunakan untuk pengubahsuaian.
The following information shows some materials used for renovation

Batu marmar, permaidani, kertas dinding, lantai berlamina, perabot upholsteri, kayu keras
Marble, carpet, wallpaper, laminated floor, upholstered furniture, hardwood

Antara berikut, yang manakah dikelaskan dengan betul?
Which of the following is correctly classified?

	Pemantul bunyi yang baik Good sound reflector	Penyerap bunyi yang baik Good sound absorber
A	Batu marmar, permaidani dan kertas dinding Marble, carpet and wallpaper	Lantai berlamina, perabot upholsteri dan kayu keras Laminated floor, upholstered furniture and hardwood
B	Lantai berlamina, perabot upholsteri dan kayu keras Laminated floor, upholstered furniture and hardwood	Batu marmar, permaidani dan kertas dinding Marble, carpet and wallpaper
C	Batu marmar, lantai berlamina dan kayu keras Marble, laminated floor and hardwood	Permaidani, kertas dinding dan perabot upholsteri Carpet, wallpaper and upholstered furniture
D	Permaidani, kertas dinding dan lantai berlamina Carpet, wallpaper and laminated floor	Batu marmar, perabot upholsteri dan kayu keras Marble, upholstered furniture and hardwood

- 2 Rajah di bawah menunjukkan beberapa isyarat tangan yang mesti dipelajari sebelum menyelam.
The diagram below shows some hand signals that must be learnt by divers before diving.



Lihat/ Look



Fikir/ Think

Mengapakah mereka perlu menggunakan isyarat tangan untuk berkomunikasi di dalam air?
Why must they use hand signals to communicate in water?

Why must they use hand signals to communicate in water?

- A Zarah-zarah di dalam air tersusun secara longgar menyebabkan gelombang bunyi merambat dengan perlahan
The particles in water are loosely arranged, causing the sound waves to be transferred slowly

The particles in water are loosely arranged, causing the sound waves to be transferred slowly

- B Zarah-zarah di dalam air adalah berjauhan antara satu dengan yang lain menyebabkan gelombang bunyi merambat dengan sangat perlahan
The particles in water are far apart from each other, causing the sound waves to propagate very slowly

The particles in water are far apart from each other, causing the sound waves to propagate very slowly

- C Zarah-zarah di dalam air tersusun sangat rapat menyebabkan gelombang bunyi merambat dengan sangat cepat
The particles in water are arranged very closely together, causing the sound waves to be transferred very rapidly

The particles in water are arranged very closely together, causing the sound waves to be transferred very rapidly

- D Tiada zarah di dalam air menyebabkan gelombang bunyi tidak dapat merambat
No particle in water causing the sound waves cannot be transferred

No particle in water causing the sound waves cannot be transferred

- 3 Apakah ciri-ciri gelombang bunyi?
What are the characteristics of sound waves?

What are the characteristics of sound waves?

- I Boleh diserap
Can be absorbed
II Boleh dipantulkan
Can be reflected
III Tidak memerlukan medium untuk merambat
Do not need a medium to propagate
IV Kelajuan perambatan bunyi adalah sama dalam semua jenis medium
The speed of propagation of sound is same in all types of medium

- A I dan II
I and II

- B III dan IV
III and IV

- C II dan III
II and III

- D I dan IV
I and IV

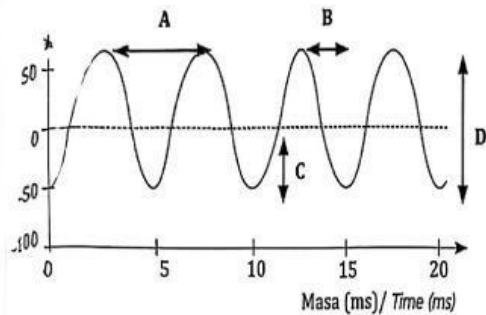
- 4 Ciri yang manakah dapat mengurangkan kebisingan di dalam dewan kuliah?
Which characteristics can reduce noise in a lecture hall?

Which characteristics can reduce noise in a lecture hall?

- A Menggunakan kerusi kayu
Use wooden chairs
B Menggunakan papan putih
Use white boards
C Memasang papan lapis pada dinding
Fix plywood at wall
D Menggunakan permaidani di atas lantai
Use carpet on the floor

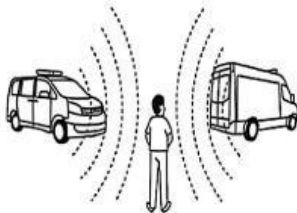
Senyaman dan Kelangsingan Bunyi Pitch and Loudness of Sound

- 5 Rajah di bawah menunjukkan bentuk gelombang apabila seruling ditiup.
The diagram below shows the waveform when the flute is blew



Bagian manakah, A, B, C dan D, yang mewakili amplitud bagi gelombang tersebut?
Which part, A, B, C or D, represents the amplitude of the wave?

- 6 Rajah berikut menunjukkan kesan Doppler.
The following diagram shows the Doppler effect.



Antara berikut, yang manakah menerangkan kesan ini dengan tepat?
Which of the following best describes this effect?

- A Perubahan amplitud yang disebabkan oleh pergerakan sumber bunyi, pemerhati atau kedua-duanya
The change in amplitude caused by the movement of sound source, the observer or both
- B Perubahan frekuensi yang disebabkan oleh pergerakan sumber bunyi, pemerhati atau kedua-duanya
The change in frequency caused by the movement of sound source, the observer or both
- C Perubahan panjang gelombang yang disebabkan oleh pergerakan sumber bunyi, pemerhati atau kedua-duanya
The change in wavelength caused by the movement of sound source, the observer or both
- D Perubahan kelajuan gelombang bunyi yang disebabkan oleh pergerakan sumber bunyi, pemerhati atau kedua-duanya
The change in the speed of sound wave caused by the movement of sound source, the observer or both

- 7 Rajah di bawah menunjukkan wisel dan gendang.
The diagram below shows a whistle and a drum.



Antara berikut, yang manakah dipadankan dengan betul?

Which of the following is matched correctly?

	Wisel Whistle	Gendang Drum
A	Kelangsingan rendah Low pitch	Kelangsingan tinggi High pitch
B	Kelangsingan tinggi High pitch	Kelangsingan rendah Low pitch
C	Bunyi lebih kuat Louder sound	Bunyi lebih perlahan Softer sound
D	Bunyi lebih perlahan Softer sound	Bunyi lebih kuat Louder sound

10.3

Fenomena dan Aplikasi Pantulan Gelombang Bunyi Phenomena and Application of Reflection of Sound Waves

- 8 Antara pernyataan berikut, yang manakah benar tentang gema?
Which of the following statements are true about the echo?

- I Sering berlaku di kawasan lapang
It often occurs at the open space areas
- II Memerlukan sedikit masa untuk sampai ke telinga pendengar
It takes some time to reach the listener's ears
- III Sebahagian haiwan menggunakan gema untuk menentukan jarak kedalaman
Some animals use echo to determine the distance of a depth
- IV Hasil daripada gelombang bunyi yang diserap apabila menghentam permukaan lembut
The result of sound waves being absorbed when they hit a soft surface

- A I dan II
I and II
- B III dan IV
III and IV
- C II dan III
II and III
- D I dan IV
I and IV

- 9 Apakah julat frekuensi bunyi yang dapat dikesan oleh telinga manusia?
What is the range of sound frequency that can be detected by the human's ear?

- A < 20 Hz
B 20 Hz
- C 20 Hz – 20 kHz
D > 20 kHz

- 10 Antara peralatan berikut, yang manakah dapat mengatasi had pendengaran manusia?
Which of the following devices can overcome human limitations of hearing?

- I Pembesar suara/ Loudspeaker
- II Telefon bimbit/ Mobile phone
- III Teleskop/ Telescope
- IV Stetoskop/ Stethoscope

- A I dan II
I and II
- B III dan IV
III and IV
- C II dan III
II and III
- D I dan IV
I and IV