حل أسئلة الامتحان النهائي منهج انسباير المسار المتقدم

تاريخ إضافة الملف على موقع المناهج: 17-11-2024 22:29:53

المزيد من مادة علوم:	ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس

التواصل الاجتماعي بحسب الصف الثامن

صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

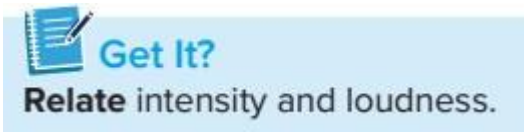
المزيد من الملفات بحسب الصف الثامن والمادة علوم في الفصل الأول

1	أسئلة الامتحان النهائي منهج انسباير المسار المتقدم
2	حل أسئلة مراجعة الوحدة الرابعة الكهرباء والمغناطيسية
3	ملخص الدرس الثالث المغناطيسية من الوحدة الرابعة متبوع بحل الأسئلة
4	ملخص الدرس الثاني التيار الكهربائي والدوائر الكهربائية من الوحدة الرابعة متبوع بحل الأسئلة
5	ملخص الدرس الأول الشحنات والقوى الكهربائية من الوحدة الرابعة متبوع بحل الأسئلة

1.	How does light reflect off rough surfaces? Page 100 **The rays reflect in different directions.**
2.	Explain the difference between regular reflection and diffuse reflection. Page 100 **Regular reflection: the reflection of light from a smooth, shiny surface** **Diffuse reflection: reflection of light from a rough surface**
3.	Identify the different types of reflection. Page 100 **Regular and diffuse reflection**
4.	What is compression in longitudinal waves? Page 14 **The sections of a longitudinal wave where particles in the medium are closest together.**
5.	What is rarefaction in longitudinal waves? Page 14 **The regions of a longitudinal wave where the particles are farthest apart.**
6.	Describe the movement of the longitudinal wave. Page 14 **A longitudinal wave causes the particles in a medium to move parallel to the direction the wave travels.**
7.	14. **Compare and contrast** music and noise. page 263 **Music is any collection of sounds that are used in a regular pattern.** **Noise has random patterns and pitches.**
8.	17. **Explain** how two musical notes that have the same pitch and volume could sound very different from each other. page 264 **Each instrument has a unique sound quality. Sound quality describes the differences between sounds of the same pitch and loudness. Sound quality results from overtones.**
9.	What is a beat? Page 268 **A beat is a variation in loudness produced by the interference of two waves with different frequencies.**

10.	How does the source of a wave change the shape of the wave? Page 26 and 27 **If the source carries a lot of energy, then the amplitude and frequency of the wave will increase, and the wavelength will decrease. Thus, changing the shape of the wave. If the source carries little energy, then the amplitude and frequency will decrease, and the wavelength will increase. Thus, again changing the shape of the wave.**
11.	What do different sound pitches have in common? Page 260 **Each sound pitch has a distinct frequency.**
12.	What is the relationship between frequency and sound pitch? Page 30 **A higher frequency produces a higher pitch, and a lower frequency produces a lower pitch.**
13.	Define virtual image. Page 93 **An image that forms from light rays that diverge or change direction.**
14.	Explain how light reflects off a plane mirror. Page 92 **Light rays that strike a plane mirror reflect at the same angle at which they strike the mirror. Light bounces off of you strikes the glass and bounces back to your eye.**
15.	State the law of reflection. Page 92 **The angle of reflection is equal to the angle of incidence.**
16.	Describe how your eyes detect color. Page 133 **Cone cells in the retina enable your eyes to detect color. Each type of cone cell responds to a different range of wavelengths which means each type of cone cells sends different signals to the brain.**
17.	In green light, red color appears _____. page 136 **Black**
18.	What property of light allows you to see different colors? Page 129 **Wavelength**

19.	What is the difference between convex and concave lenses? Page 116 **Convex lens: a lens that is thicker in the middle than at the edges. They refract light inward or converge.** **Concave lens: a lens that is thicker at the edges than in the middle. They refract light outward or diverge.**
20.	Identify the different types of images caused by different lenses. Page 118 **Convex lenses form real and virtual images.** **Concave lenses form virtual images.**
21.	How are images seen through different lenses? Page 118 **In a convex lens, virtual images are seen as upright and larger; but real images are inverted or upside down and can be either large or smaller.** **In a concave lens, images are virtual, upright, and smaller.**
22.	 Get It? **Identify** two reasons why sounds usually travel faster through solids than through gases. Page 253 and 254 Sound usually travels faster through solids than through gases because solids are usually denser and more elastic than gases.
23.	2. **Summarize** the physical reasons that sound waves travel at different speeds through different mediums. Pages 253-254 Sound waves travel at different speeds through different mediums due to differences in temperature, density, and elasticity.
24.	3. **Explain** why sound speeds up when temperature increases. page 253 When temperature increases, particles move faster, resulting in more collisions. As a result, sound waves can be transmitted faster through the medium.

25.	How do the different colors of light affect how you see color? Page 136 **When light waves of different wavelengths interact with an object, the object absorbs some light waves and reflects others. We see the color that is reflected.**
26.	Describe how light waves interact with the clothes you are wearing. Page 136 **If you are wearing a blue shirt, the shirt will absorb all the wavelengths except the blue in your shirt; it will reflect the blue light and my brain perceives the color blue.**
27.	Why does a white surface appear white? Page 136 **All light wavelengths are reflected.**
28.	Define amplitude. Page 18 **The maximum distance that the wave moves from its rest position.**
29.	Define wavelength. Page 26 **The distance between one point on a wave to the same point on the next wave (crest to crest, trough to trough, compression to compression, rarefaction to rarefaction)**
30.	Define frequency. Page 26 **The number of times the pattern repeats in a given time; it is related to how quickly or how often the wave vibrates.**
31.	 page 258 Loudness is the human perception of sound volume. Loudness primarily depends on sound intensity.

32.

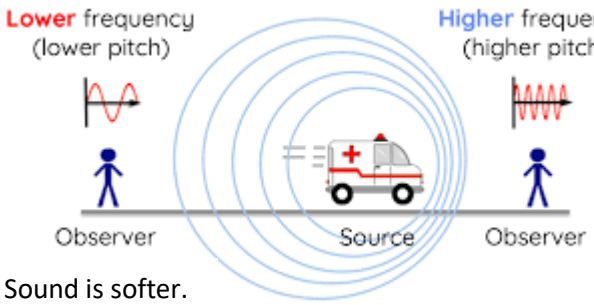
8. **Determine** which will change if you turn up a radio's volume: *wave velocity, intensity, pitch, frequency, wavelength, loudness*. Explain.

pages 258-260

Intensity and loudness will change. Loudness is the human perception of sound volume. Loudness depends primarily on sound intensity.

33.

11. **Draw and label** a diagram that explains the Doppler effect. page 261



Sound is louder

Sound is softer.

34.

Define focal length. Page 96

The distance along the optical axis from the mirror to the focal point.

35.

Explain how a concave lens can be used to start a fire. Page 121

A concave lens cannot start a fire because the lens diverges the light and the sun's light will not focus on the paper.

36.

What is refraction? Page 112

The change in direction of a wave as it changes speed while moving form one medium to another

37.

Transmission can be defined as _____. page 43

The passing of a wave through a medium

38.

The definition of absorption is _____. page 43

The transfer of energy by a wave to the medium that it travels through

39.	Describe the behavior of sound as it travels from one room to another. Page 43 **As sound travels from one room to another, the sound is transmitted, absorbed and reflected.**
40.	In what way does energy affect a wave? Page 20 **If the energy in a wave increases, then the amplitude will increase. If the energy in a wave decreases, then the amplitude of the wave will decrease. This affects the intensity and loudness of the wave. The more energy, the greater the intensity and the loudness. The lower the energy, the lower the intensity and loudness.**
41.	How does the amplitude of the wave relate to its energy? Page 20 **If the energy in a wave increases, then the amplitude will increase. If the energy in a wave decreases, then the amplitude of the wave will decrease.**
42.	Define intensity. Page 23 **The amount of sound energy that passes through a square meter of space in one second.**
43.	 Get It? **Identify** what makes the eardrum vibrate. page 255 **Energy from sound waves**
44.	1. **Explain** how sound travels from your vocal cords to your friend's ears when you talk. Vocal cords vibrate. These vibrations are transferred to the air as sound waves. The sound waves travel to your friend's ears.
45.	**Explain** *why sound would travel more slowly in cork than in water.* page 254 Although cork is a solid and water is a liquid, cork is full of pockets of air, and is less dense overall than water. Because the particles in cork are farther apart on average, sounds travels more slowly in cork than in water.

46. Identify the different types of mechanical waves and their properties. Page 13

Transverse waves:

- **The disturbance is perpendicular to the direct the wave travels.**
- **Composed of crests and troughs**
- **Wavelength is measured from crest to crest or trough to trough.**

Longitudinal waves:

- **Particles in the medium move parallel to the direction the wave travels.**
- **Composed of compressions and rarefactions.**
- **Wavelength is measured from compression to compression or rarefaction to rarefaction.**

47. Explain the relationship between the wavelength and the frequency of a wave. Page 26

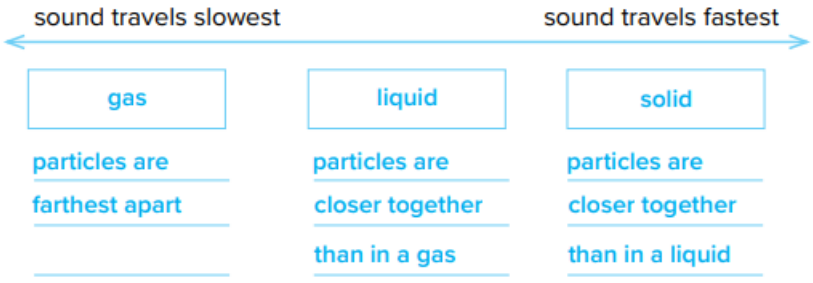
As the frequency of the wave increases, the wavelength decreases. As the frequency of the wave decreases, the wavelength increases.

48. **Explain** *why the astronauts need radios in order to talk to each other.* page 253

The astronauts are in outer space where sound waves cannot travel. Unlike sound waves, radio waves can travel through space.

49. How does sound change when traveling through different mediums? page 254

Sound travels faster through solids and slowest in gases because the particles are closer together in solids and farther apart in gases.



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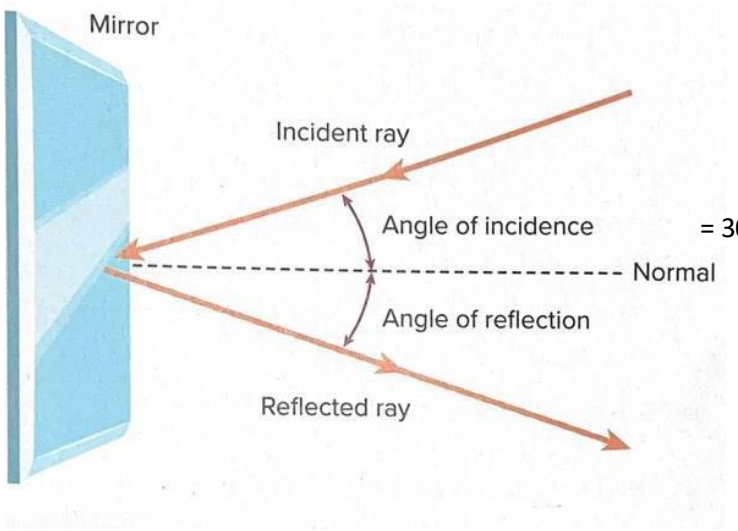


Calculate the angle of reflection shown in the figure above. Page 92

The angle of reflection = the angle of incidence, so the angle of reflection is 30°.

51. How does the law of reflection help identify the angle of incidence or the angle of reflection? Page 92

The angle of reflection = the angle of incidence

52. Explain why eyes sometimes appear to glow in the dark.

A light ray that strikes a reflective surface in an animal's eye can reflect back at the same angle.

53.

Get It?

Identify What produces waves, and what do waves carry? page 278

Waves are made by vibrating objects. They carry energy.

54.

Get It?

Describe the differences between microwaves and radio waves. Page 285-286

Microwaves have shorter wavelengths and higher frequencies than radio waves have, and the photons of microwaves have more energy than the photons of radio waves.

55.

Get It?

Describe the steps by which a microwave oven heats food. page 286

The vibrating electric field in the microwave oven makes water molecules rotate back and forth. Friction between the molecules generates thermal energy, which heats the food.

56.

Get It?

Compare the effects on matter caused by the absorption of electromagnetic radiation of different wavelengths. page 287

Sample answer: Light or longer wavelength radiation is generally converted to thermal energy. Shorter wavelengths can ionize atoms and cause damage to living cells.

57.

7. **Compare and contrast** the properties and uses of radio waves, infrared waves, and ultraviolet waves.

All are electromagnetic waves. radio waves: long wavelengths, low frequencies, used for communications, MRI, radar; infrared waves: long wavelengths, low frequencies, used for thermal imaging; ultraviolet waves: short wavelengths, high frequencies, used in forensics, purification

58.

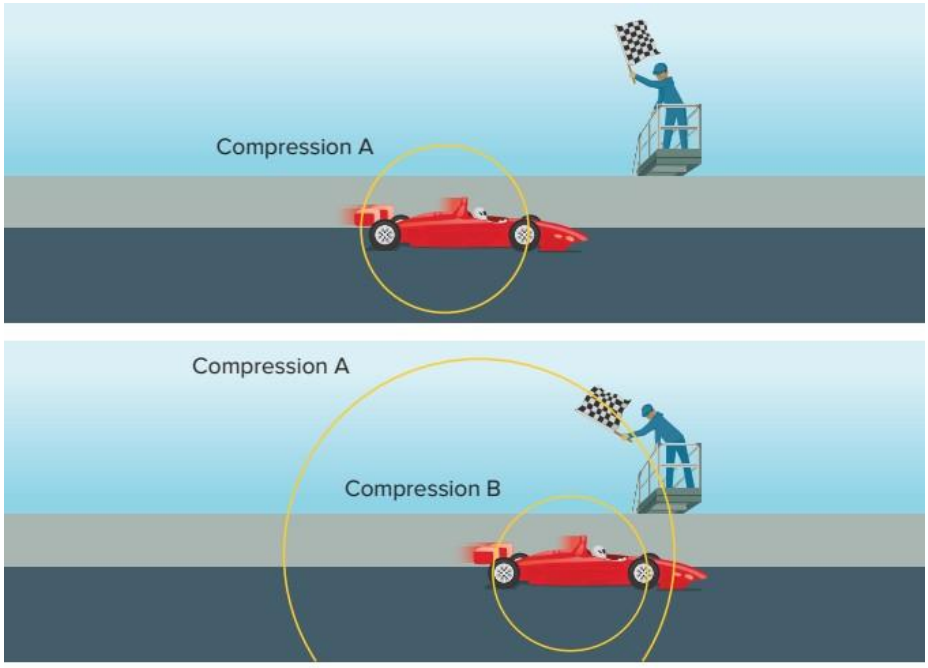


Figure 10 The Doppler effect occurs when the source of a sound wave is moving relative to a listener.
Explain *why the flagger will hear a lower-pitched sound once the car passes him.* page 261

The wave compressions that reach the flagger's ear are more spread out once the car passes the flagger.

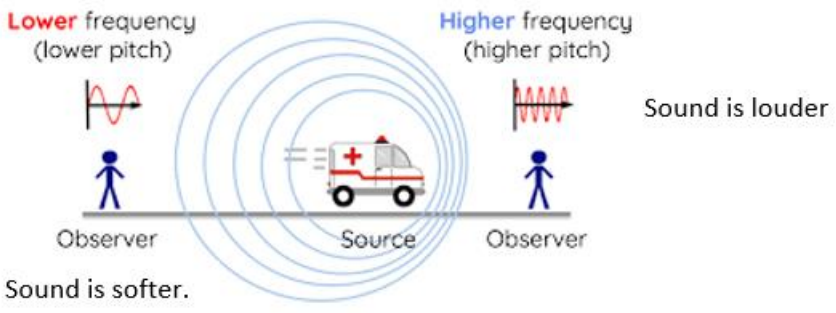
59.

Get It?
Describe the Doppler effect. page 261

Wave frequency changes when the wave source moves relative to the observer.

60.

11. **Draw and label** a diagram that explains the Doppler effect. page 261



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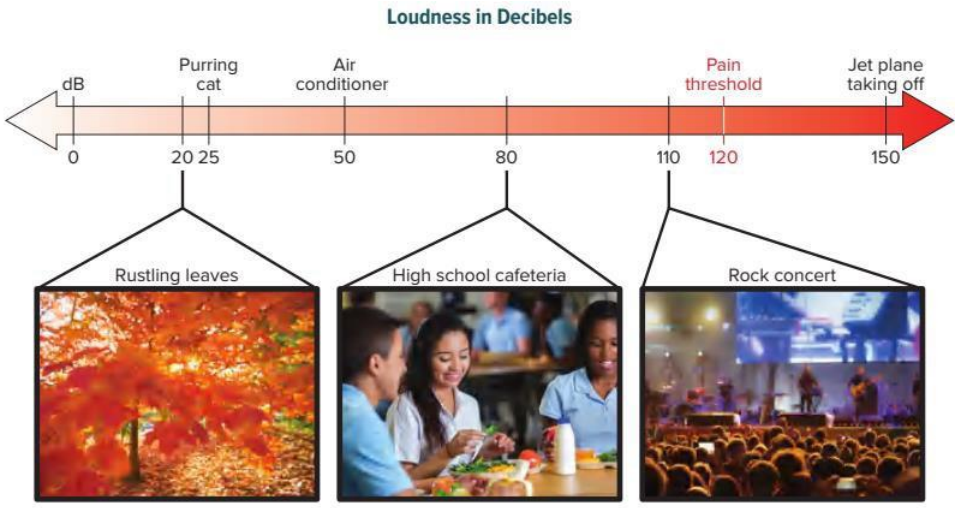

Figure 8 The volumes of different sounds are often measured in decibels.
Identify *where a normal speaking voice would fall on the decibel scale.*

page 259

A normal speaking voice would be about 60 dB.

62.

12. **MATH Connection** Use scientific notation to express the range of wavelengths corresponding to visible light, ultraviolet waves, and X-rays.

visible light: 4.0×10^{-7} to 7.0×10^{-7} m; ultraviolet: 1.0×10^{-8} to 4.0×10^{-7} m; X-rays: 1.0×10^{-11} to 1.0×10^{-8}m

63.

14. **Identify and describe** the steps that a radio station uses to broadcast sounds to your radio receiver.

Sounds at the radio station are converted into an electrical signal. This signal causes electrons in the broadcast antenna to vibrate. The vibrating electrons produce electromagnetic waves, which travel outward. The electromagnetic wave encounters a radio receiver antenna. The electric and magnetic fields of the wave cause the electrons in the receiver antenna to vibrate. The vibrating electrons provide the electrical signal that the radio converts back into sound.

64.

15. **Explain** the difference between AM and FM radio. Make a sketch of how a carrier wave is modulated in AM and FM radio signals.

page 292

	For AM, amplitude is modulated. For FM, frequency is modulated. Students' sketches should resemble Figure 19.
65.	16. **Describe** what happens to your signal when you are talking on a cell phone and you travel from one cell to another cell. A central controller transfers your signal to the base station in the new cell.