

T3U2 General Review



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الثامن ← علوم ← الفصل الثالث ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 12:13:25 2026-06-12

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
علوم:

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التواصل الاجتماعي حسب الصف الثامن



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الثامن والمادة علوم في الفصل الثالث

هيكل الامتحان 2026م غير محلول

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**Part 1: Multiple Choice Questions**

1. **What is a repeating disturbance that transfers energy through matter or space?**
 - A. Vibration
 - B. Medium
 - C. Wave
 - D. Rarefaction
2. **Which of the following is NOT a mechanical wave?**
 - A. Sound wave
 - B. Light wave
 - C. Ocean wave
 - D. Seismic wave
3. **In a transverse wave, the particles of the medium move _____ to the direction of wave travel.**
 - A. parallel
 - B. in circles
 - C. at right angles
 - D. in the opposite direction
4. **The material through which a mechanical wave travels is called a:**
 - A. Vacuum
 - B. Substrate
 - C. Medium
 - D. Conductor



5. **A longitudinal wave is also known as a:**
- A. Transverse wave
 - B. Surface wave
 - C. Compressional wave
 - D. Electromagnetic wave
6. **In a longitudinal wave, the area where the particles are spread apart is called a:**
- A. Compression
 - B. Rarefaction
 - C. Crest
 - D. Trough
7. **Sound waves travel fastest through which of the following?**
- A. Vacuum
 - B. Air
 - C. Water
 - D. Steel (Solid)
8. **Which wave property is the distance between one point on a wave and the nearest point just like it?**
- A. Frequency
 - B. Amplitude
 - C. Wavelength
 - D. Period



9. **The frequency of a wave is measured in:**
- A. Seconds
 - B. Meters
 - C. Hertz (Hz)
 - D. Meters per second
10. **If the frequency of a wave increases, what happens to its wavelength (if speed is constant)?**
- A. It increases
 - B. It decreases
 - /C. It stays the same
 - D. It doubles
11. **The high points of a transverse wave are called:**
- A. Crests
 - B. Troughs
 - C. Peaks
 - D. Summits
12. **Which of these waves can travel through a vacuum?**
- A. Sound
 - B. Seismic
 - C. Radio
 - D. Water



13. Seismic waves are produced by:

- A. Shaking a rope
- B. Breaking or shifting of Earth's crust
- C. Underwater speakers
- D. Wind on the ocean surface

14. The amount of time it takes for one wavelength to pass a fixed point is the:

- A. Frequency
- B. Speed
- C. Period
- D. Amplitude

15. What happens to a wave when its energy spreads out?

- A. Its frequency increases
- /B. Its wavelength increases
- C. It shrinks and disappears
- D. It speeds up

16. Which equation correctly represents wave speed?

- A. $v = f + \lambda$
- B. $v = f / \lambda$
- C. $v = f \cdot \lambda$
- D. $v = \lambda / f$



17. A sound wave has a frequency of 100 Hz and a wavelength of 3.4 m. What is its speed?

- A. 34 m/s
- B. 340 m/s
- C. 0.034 m/s
- D. 103.4 m/s

18. Water waves cause water molecules to move in which pattern?

- A. Only up and down
- B. Only back and forth
- C. In small circles (a combination of motions)
- D. They don't move at all

19. If you move a rope up and down 5 times in 1 second, the frequency is:

- A. 1 Hz
- B. 0.2 Hz
- C. 5 Hz
- D. 10 Hz

20. The speed of sound in air is approximately:

- A. 3,000 m/s
- B. 340 m/s
- C. 1,500 m/s
- D. 300,000,000 m/s



21. The point where an earthquake originates is called the:

- A. Fault
- B. Rarefaction
- C. Crest
- D. Focus

22. Mechanical waves carry _____ without transporting _____ from place to place.

- A. matter / energy
- B. energy / matter
- C. particles / vibration
- D. sound / air

23. Which factor affects the speed of sound the most?

- A. The color of the object
- B. The frequency of the wave
- C. The temperature and nature of the medium
- D. The loudness of the sound

24. A wave has a frequency of 250 Hz and a speed of 1500 m/s. What is its wavelength?

- A. 6 m
- B. 0.16 m
- C. 375,000 m
- D. 1250 m



25. The imaginary line half-way between crests and troughs is the:

- A. Wavelength
- B. Rarefaction
- C. Rest position
- D. Period

Part 2: Completion (Fill in the blanks)

1. A(n) _____ is the matter through which a wave travels.
2. All waves are produced by something that _____.
3. In a(n) _____ wave, matter moves back and forth along the same direction the wave travels.
4. The unit 1/s is equivalent to the unit _____.
5. For a transverse wave, the distance from one trough to the next trough is the _____.
6. As the frequency of a wave _____, the period of the wave decreases.
7. _____ waves can be both transverse and longitudinal and travel through Earth's interior.
8. Light waves travel much _____ than sound waves.
9. In a longitudinal wave, the crowded area is called a _____.
10. The speed of a wave can be found by multiplying _____ by frequency.

Part 3: Short Answer Questions

1. **Explain** why you see a baseball hitter swing before you hear the "crack" of the bat.

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2. **Describe** the motion of an unanchored boat on a lake when a wave passes by.

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3. **Compare** and contrast a transverse wave and a longitudinal wave in terms of particle motion.

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4. **Identify** two examples of mechanical waves and one example of a wave that does not require a medium.

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5. **Calculate:** A wave traveling in water has a frequency of 500 Hz and a wavelength of 3.0 m. What is its speed?

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Part 4: High-Level Thinking Questions

- If a wave's frequency is doubled while it stays in the same medium, what happens to its period?
 - It doubles
 - It quadruples
 - It is halved
 - It remains the same
- A sound wave travels from water ($v = 1500$ m/s) into air ($v = 340$ m/s). What property of the wave remains constant?
 - Wavelength
 - Speed
 - Frequency
 - Amplitude



3. Based on the relationship $v = f\lambda$, if the speed of a wave doubles but the frequency stays the same, the wavelength must:
- A. Be halved
 - B. Double
 - C. Triple
 - D. Stay the same
4. Why do waves "shrink and disappear" as they move further from the source?
- A. Matter is lost
 - B. Frequency decreases to zero
 - C. Energy spreads out and is transferred to the medium
 - D. The medium disappears
5. In a longitudinal wave, if the distance between the middle of a compression and the middle of the next rarefaction is 2 meters, what is the wavelength?
- A. 1 m
 - B. 2 m
 - C. 4 m
 - D. 8 m
6. Which of the following would increase the speed of a sound wave in a specific gas?
- A. Increasing the frequency
 - B. Increasing the amplitude
 - C. Increasing the temperature of the gas
 - D. Decreasing the wavelength



7. A radio station broadcasts at 100 MHz (10^8 Hz). If the speed of light is 3×10^8 m/s, what is the wavelength?
- A. 0.33 m
- B. 3 m
- C. 30 m
- D. 300 m
8. If the frequency of a wave is 0.5 Hz, how long does it take for one full wavelength to pass?
- A. 0.5 s
- B. 1 s
- C. 2 s
- D. 5 s
9. Seismic waves allow scientists to study Earth's interior because:
- A. They carry matter from the core to the surface
- B. Their speed and direction change depending on the medium they pass through
- C. They are only transverse waves
- D. They only travel through vacuums
10. A wave pulse is sent down a rope. If the user shakes the rope faster but with the same force, which property is NOT changed?
- A. Frequency
- B. Wavelength
- C. Period
- D. Speed (assuming tension is constant)



Answer Key

Part 1: MCQ

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|-------|-------|-------|-------|-------|
| 1. C | 2. B | 3. C | 4. C | 5. C |
| 6. B | 7. D | 8. C | 9. C | 10. B |
| 11. A | 12. C | 13. B | 14. C | 15. C |
| 16. C | 17. B | 18. C | 19. C | 20. B |
| 21. D | 22. B | 23. C | 24. A | 25. C |

Part 2: Fill in the blanks

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|---------------|---------------|------------------------------------|
| 1. Medium | 2. Vibrates | 3. Longitudinal (or Compressional) |
| 4. Hertz (Hz) | 5. Wavelength | 6. Increases |
| 7. Seismic | 8. Faster | 9. Compression |
| | | 10. Wavelength |

Part 3: Short Answer

- Light travels much faster (300,000,000 m/s) than sound (340 m/s).
- It moves up and down (and slightly back and forth) but stays in the same general place; it is not carried forward by the wave.
- In transverse waves, particles move perpendicular to wave motion; in longitudinal waves, they move parallel.
- Mechanical: Sound, Water, Seismic. Non-mechanical: Light, Radio.
- $v = 500 \times 3.0 = 1500 \text{ m/s}$.

Part 4: High-Level

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|---|------|-------|------|--|
| 1. C | 2. C | 3. B | 4. C | |
| 5. C (Distance C to R is half a wavelength) | | 6. C | 7. B | |
| 8. C ($T = 1/f = 1/0.5$) | 9. B | 10. D | | |