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VIDEO GUIDE · UNIT 1 · TOPIC 1.6

Hearing II

Watch the lesson

Name _____ Class _____ Date _____

NOTES: FILL IN THE BLANKS WHILE YOU WATCH

1. _____ : pitch depends on where hair cells are activated in the cochlea; it best explains high pitches. Low frequencies activate a broad area, so _____ alone can't distinguish low pitches well.
2. _____ : for low pitches, neurons fire in sync with the sound wave, so the firing rate signals pitch. It can't explain high pitches, because individual neurons can't fire fast enough.
3. _____ : for mid-range pitches too fast for a single neuron to match, groups of neurons alternate their firing.

CHECK YOUR UNDERSTANDING

1. Which pairing of a pitch theory with the sounds it best explains is correct?

(A) Frequency theory: high-pitched sounds

(B) Volley theory: very low-pitched sounds

(C) Place theory: high-pitched sounds

(D) Place theory: very low-pitched sounds

2. A student argues that because place theory explains how we hear high-pitched sounds, the other pitch theories are unnecessary. Which response is most accurate?

(A) Correct; place theory explains every pitch

(B) Incorrect; frequency theory better explains low pitches

(C) Incorrect; frequency theory better explains high pitches

(D) Incorrect; volley theory replaced both other theories

3. A tone slides from a very high pitch down to a very low pitch. Which shift best describes how the brain codes it?

(A) From frequency theory, through volley theory, to place theory

(B) From volley theory to place theory

(C) From frequency theory to place theory

(D) From place theory, through volley theory, to frequency theory

NOTES

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