Now Hear This!

Each year, a few serious scientists are awarded Nobel Prizes. And each year, some other scientists get much sillier awards: the Ig Nobel Prizes. The Ig Nobels award scientists whose research first makes people laugh-and then makes them think. Back in 2006, Howard Stapleton won the Ig Nobel Peace Prize. What did he do to win? He invented a machine to repel kids!



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Adults use sound to repel kids, but some teens find a way to bite back

He calls his invention the Mosquito. It makes an irritating, high-pitched noise. Kids can hear the annoying sound, but adults cannot. Stapleton hoped store owners could use the device to keep unwelcome kids from hanging around their shops.

When something-such as a barking dog, a ringing phone, or the Mosquito-makes a noise, it creates tiny vibrations. Those vibrations make the air around the object move. The vibration travels through the air as a sound wave.

Low-pitched sounds like a foghorn's have a low frequency. That means the noise travels in few waves per second. High-frequency noises travel in many waves per second. Those noises sound high-pitched-like the shrill Mosquito.

The reason that older people can't hear the high-pitched Mosquito is because they have older ears. As a person ages, special cells inside the ear called hair cells start to die. As a person's hair cells die, it becomes harder to hear high-frequency sounds.

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Frequency is measured in units called Hertz (Hz). The Mosquito tone measures up at 17,000 Hz. Hardly anyone older than 30 is able to hear frequencies that high, but kids can!

Howard Stapleton's invention may have won him a prize, but some smart kids have found a way to turn the tables on adults. Many kids are now using a similar high-pitched buzz as a cell phone ring tone, known as the "Mosquito tone" or "Teen Buzz." If the phone rings when it shouldn't-like in the middle of science class-only kids can hear it. Teachers and parents are deaf to the Mosquito tone.

Now you know the secret of the Mosquito tone. But beware: that's the kind of fact you just might miss if you're talking on the phone during science class!

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1. The Mosquito repels kids. What causes the Mosquito to repel kids?

A. It releases a sour smell that only kids can sense.

B. It makes a low-pitched sound that only kids can hear.

C. It makes a sound that only adults can hear.

D. It makes an annoying sound that only kids can hear.

2. How does noise travel?

A. through the ground

B. in sound waves

C. in light waves

D. in light years

3. Why does the Mosquito make a high-pitched sound?

A. The sound waves it creates move at a high frequency.

B. The sound waves it creates move at a moderate frequency.

C. The sound waves it creates move at a low frequency.

D. The sound waves it creates change frequencies.

4. As a person ages, special cells inside the ear called hair cells start to die. What is an effect of this?

A. The person is able to hear low-pitched sounds better.

B. The person is unable to hear neither high-pitched sounds nor low-pitched sounds.

C. The person is unable to hear high-pitched sounds.

D. The person is unable to hear low-pitched sounds.

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5. What does the word "repel" mean as used in the text? Use evidence in the text to support your answer.

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